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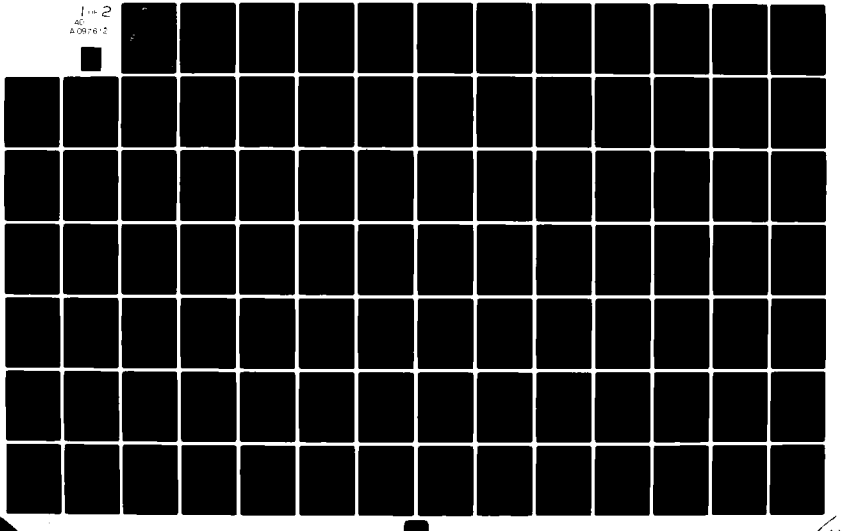

DISEASE RATES IN THE MILITARY DURING THE 1970'S

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2 April 1981

Washington, DC

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ABSTRACT

Morbidity data from the official publications of the Surgeons General of the United States Army, Air Force, and Navy for the years 1970-1979 are selected, posted, studied, and discussed. Disease rate comparisons between the three services, between diseases and disease categories, between the sexes, and over time were made possible from observation of plotted trend lines and from compiled tables. It was discovered that comparability within and among the three data bases was compromised by a number of conditions, policies, and circumstances, thus impeding the strength and reliability of the emergent substantive findings in the study. A plea is made for formation of an inter-service task force to study and recommend consolidation of a unified data base to enable the conduct of research in military epidemiology and in military medical resources management.

INTRODUCTION

Study of the incidence of disease is fundamental to descriptive epidemiology. In the military, disease rates and other morbidity indicators are tracked continuously by the medical departments of each of the armed services. The U. S. Army Surgeon General publishes monthly issues of the Health of the Army[1]; the U. S. Navy Surgeon General publishes annually or biennially a volume entitled Medical Statistics U. S. Navy[2]; and the U. S. Air Force Surgeon General publishes annual reports entitled Biostatistics of the USAF Medical Service[3].

In 1976, Datel[4,5] collated and presented psychiatric disease rates in the military from 1942 through mid-1973, the point in time when Health of the Army temporarily suspended publication because of the conversion from manual data gathering and data processing to automated, electronic data processing procedures. The present report represents a continuation and expansion of this earlier work. It was compiled by selecting published, pre-published, and unpublished data from the medical data collection systems of each of the three armed services. It posts and discusses the rates of psychiatric and other diseases in the Army, Air Force, and Navy during the decade of the 1970's.

Study of disease rates in the military can be instructive to a variety of audiences: to the commander in his understanding of troop composition, deployability, and morale; to the manager in planning and budgeting costs; to the scientist in describing the distribution and patterning of disease in the search for correlates of morbidity; and finally to the keepers of the data processing systems for any light it may shed on the quality of the data generated.

While there are no "new data" contained in the present report, juxtapositionings and comparisons within the information presented may reveal previously unnoticed relationships and insights, and may serve to stimulate further scientific inquiry. Additionally, exposure of the constraints and limitations in making valid inter-service comparisons may incite renewed efforts toward the furtherance of data systems integration among the three armed services.

METHOD

Diseases and other morbidity indicators were selected for study. The criterion for inclusion was (a) psychiatric disease; or (b) disease with high rates; or (c) disease of major or special interest; or (d) traditional morbidity indicator.

Similarly, a decision was made as to which groups were to be studied. Within Army, Air Force, and Navy (including Marines), the subgroupings became as follows:

Type of personnel
- active duty (men and women combined)
- active duty men
- active duty women
- all (active duty, retired, dependents, other)

Geographic location
- worldwide
- continental United States
- overseas
- Europe
- western Pacific

The specific variables studied are identified, coded, and defined on page A-1 of Appendix A.

Values for each variable were obtained for the years 1970 through 1979 and are posted on pp. A-2 through A-11 of Appendix A. However, data were not obtained for every grouping (or subgrouping) for every year on every variable.

The data sources were as follows: For the Army, for the years 1970 through 1972, the annual rates appearing in the yearly summary issues (month of May) of Health of the Army[1] were used; for the years 1974 through 1979, annual rates were derived by averaging yearly the 12 monthly annualized rates published in Health of the Army[1]; and for 1973, the year of conversion from a manual to an automated data system, the yearly rate was based on averaging the six monthly annualized figures from the July through December issues of Health of the Army[1].

For the Navy, for the years 1970 through 1973, data were lifted directly from the annual rates posted in Medical Statistics U. S. Navy[2]. Navy data for the years 1975 through 1978 were provided to the author directly in unpublished tabular form from the U. S. Navy Medical Data Services Center in Bethesda, Maryland. The Navy data for 1977 and 1978 are provisional and are estimated by summing data on "patients treated in Navy medical facilities only" with a weighted contribution from "patients treated in Army and Air Force facilities" based on 1976 proportionings.

For the Air Force, for the years 1970 through 1978, incidence counts were tabulated from tape extracts made available to the author by the Biometrics Division, Office of the Surgeon General, Brooks Air Force Base, Texas. Rates were calculated by using strength figures provided in the publication Biostatistics of the USAF Medical Service[3] and in pre-published material supplied to the author.

No data are presented for the Navy and Air Force for 1979 because none were available at the time of data-closeout for purposes of compiling this report.

Comparability in the data is attenuated by the following conditions and circumstances:

(a) It is possible to base disease rates on the primary diagnosis only, as is the case with admission rates, disposition rates, and excusal rates; or, to base disease rates on all diagnoses, in which case the term incidence rate has been traditionally used in all three branches of the military. In the data assembled in this report, rates on any of the selected diseases are incidence rates, i.e., they are based on a count of all diagnoses, primary and otherwise. However, rates for disease, for injury, and for disease and injury combined are based on primary diagnosis only in the case of the Army data; in the case of Air Force and Navy data, counts in these categories are based on all diagnoses. Health of the Army[1] does not publish incidence rates for disease, for injury, or for disease and injury combined; it publishes dispostion rates for these categories. Prior to July 1973 it published admission rates for these categories.

(b) Carded for record only (CRO) cases refer to those patients on whom an inpatient medical record is required for administrative purposes but who are not physically admitted as inpatients. Such cases include deaths occurring outside a medical treatment facility (including persons dead on arrival), non-hospitalized disability separations, and separations for failure to meet medical standards handled on an outpatient basis. Diagnoses from CRO cases are excluded from all incidence rates presented in this report. However, Health of the Army[1] includes CRO cases in its published disposition rates and apparently did likewise for its admission rates prior to July 1973. Therefore, the Army rates for disease, for injury, and for disease and injury combined include diagnoses from CRO cases, while the same rates from the Air Force and the Navy exclude CRO cases.

(c) Navy diagnosis counts and Army diagnosis counts beginning 1 July 1973 are derived solely from persons who form the census of Navy medical treatment facilities and of Army medical treatment facilities, respectively. However, Air Force diagnosis counts published in the annual issues of Biostatistics of the USAF Medical Service[3] include diagnoses on persons placed on quarters as well as persons hospitalized in a medical treatment facility. This serves to render the

published Air Force rate data useless for purposes of inter-service comparability studies. Therefore, it became necessary to obtain and process the original Air Force data tapes so that the quarters cases could be purged from the total incidence counts in order to make disease rates in the Air Force comparable with those in the Navy and with those in the Army after June 1973. (Prior to July 1973 the Army included quarters cases in its admissions and its incidence counts.)

Table 1 shows the proportion of diagnoses, by year, associated with quarters cases in U. S. Air Force active duty personnel, worldwide. Beginning in 1970, when 18 per cent of the diagnoses came from quarters cases, there has been a steadily increasing proportion--to upwards of 50 per cent--of the Air Force's official incidence counts attributable to quarters cases.

Table 1

Per Cent of All Diagnoses Contributed by Quarters Cases

Air Force Active Duty Worldwide

	All Diagnoses	Diagnoses assigned to quarters cases	
Year	Number	Number	Per cent
1970	181,208	32,692	18.0
1971	193,149	40,112	20.8
1972	210,242	59,111	28.1
1973	209,330	71,347	34.1
1974	197,359	72,423	36.7
1975	194,047	72,390	37.3
1976	221,625	98,741	44.6
1977	218,142	99,717	45.7
1978	262,732	138,250	52.6

It was not possible to subtract out diagnoses on quarters cases from the Army data for those years (1970, 1971, 1972) in which quarters cases were included in the morbidity counts.

(d) Mental disorders in the Army data depart somewhat from the ICD-8 Class V categorization. For the years 1970 through 1972, mental disorders equal all psychiatric disorders; for the years 1973 through 1979, mental disorders fail to include the following diagnoses: 302 (sexual deviation), 305 (physical disorders of presumably psychogenic origin), 306 (special symptoms), 308 (behavior disorders of childhood), 309 (non-psychotic mental disorders associated with physical conditions) and 310-315 (mental retardation). Mental disorders in the Air Force and Navy data conform with the ICD-8 Class V categorization.

(e) Drug and alcohol disorders for the Air Force data do not include diagnosis 7932 (improper use of alcohol) nor diagnoses 793A through 793M (improper use of drugs). Drug and alcohol disorders for the Navy data fail to include diagnosis 7932 (improper use of alcohol). Drug and alcohol disorders for the Army data include both improper use of alcohol (7932) and improper use of drugs (793A-793M).

(f) Female genital disease counts in the Army data do not include diseases of the breast (610-611) because breast diseases are not broken out separately for men and for women in Health of the Army[1]. Diagnoses of diseases of the breast in women are included in the Air Force and the Navy female genital disease rates because breast diseases are pooled with diseases of the ovary, fallopian tube, and parametrium in the Air Force and Navy Surgeon General publications[2,3]. Breast diseases in males are excluded from the Army, Air Force, and Navy genital disease data presented here.

(g) The rates for female genital organ diseases which appear in the Navy and the Air Force publications[2,3] are erroneous. They were incorrectly calculated by using total force strength rather than female force strength as the denominator. These errors have been

corrected in the present report by determining the rates through use of the proper denominators. (Note: I am grateful to Mr. John H. Vinyard, Jr. of the Army Surgeon General's Patient Administration Systems and Biostatistics Activity for calling my attention to the fact that I was promulgating these original posting errors in an earlier version of this paper.)

(h) It was not until January 1978 that Health of the Army[1] began posting disease rate data by sex. Therefore, the present report includes only two data points (1978, 1979) for Army men versus Army women on all disease comparisons except genital organ disease. Because of access to the Air Force medical data tapes, it became possible to engineer a sex breakout for all diseases for all years studied. The Navy data enabled sex comparison on mental disorder, genital organ disease, and disease and injury for the time period studied.

(i) Health of the Army[1] has very recently published annual reports for calendar years 1978 and 1979. In comparing the annual disease rates published in these annual reports with the disease rates presented here by averaging monthly annualized rates over 12 months, differences are apparent. For 1978, disposition rates (i.e., rates for disease, for injury, and for disease and injury combined) published in the annual report run approximately 16 per cent higher than the estimated rates presented here; for 1979, the same rates run approximately 5 per cent higher in the annual report. Similar differentials obtain in the case of the mental disorder incidence rate. In the case of respiratory disease, genital organ disease, and drug and alcohol disorders, the discrepancies are not quite so large but are in the same direction. It is said by Patient Administration Division, Office of the Surgeon General, that the discrepancy is caused by the filing of "late reports," but it is unclear why the difference for CY78 is so much greater than for CY79. It is also of interest to note that the incidence rates for all of the selected diseases in women, except for genital organ disease, are erroneous as published in the 1978 and the 1979 Health of the Army annual reports; obviously the wrong denominators were used inasmuch as all of the rates for women fall far, far short of the estimates made by 12-month averaging.

RESULTS AND DISCUSSION

The results are presented in their entirety in tabular form in Appendix A. The left hand column of the table is an alphabetized listing of the code names of the variables studied. Each variable name is a string of four components, and each component is the reference code for the definitions presented on page A-1 of Appendix A. For example, the variable name XPSFEMWW is decoded as follows: X=Army, PS=psychosis rate, FEM=active duty women, and WW=worldwide. XPSFEMWW can, therefore, be read as "the psychosis rate in women soldiers, worldwide." All of the other variable names can be decoded in a similar fashion. Columns 2 through 11 in the table contain the data for years 1970 through 1979, respectively, for each of the variables listed. Many of the variables have missing values, largely because Health of the Army[1] did not publish rate by sex data prior to 1978.

Data on variables of particular interest were lifted from the table in Appendix A, plotted as 2-dimensional displays, usually rate by year, and appear as Figures 1 through 69. The plots were accomplished by using the PLOT Procedure of the Statistical Analysis System[6] on the IBM System/370 computer at the National Institutes of Health[7]. Proc PLOT results in hidden data points when two or more observations closely resemble each other on the same occasion. To make the displays more complete, any such unprinted data points have been added by hand to the Figures presented here. The reader should be reminded that the plot of any data points in SAS Proc PLOT *are accurate only within the limits of the established linefeed intervals, an accuracy sufficient* for the purposes here of inspection and interpretation.

As the data are presented and discussed, one may wish to think in terms of the kinds of internal comparisons that can be ordered. There are principally four: (a) inter-service (b) inter-sex (c) inter-disease and (d) over time. It is also possible to make geographic comparisons within the Army data by referencing the values listed in the table at Appendix A, but results other than those based on worldwide counts do not appear in any of the plots that have been prepared for this report.

For the most part, ordinate values on the plots begin at zero, and the same scalar intervals are maintained for the same disease, regardless of population studied. This constancy is offered to facilitate inspection and comparison throughout.

Strengths

Average strengths for each of the armed services, and for each of the armed services by sex, for the 1970's, are plotted in Figures 1, 2, and 3. Strength figures for the Army came from Department of Defense source material[8] and represent strength levels as of the close of the fiscal year. Air Force and Navy strength figures came from the Surgeon General reports (Appendix Table 1 in the Air Force publication[3] and Appendix Table 30 in the Navy publication[2]), and are average strengths for the calendar year.

It can be observed that male strength in the Army and in the Navy tends to level off after 1975, while male strength in the Air Force declines throughout the entire period studied. Female strength in all three armed services rises continuously from 1972 through the last data point observed. Female strength in the Army has risen more steeply than in the other branches.

Disease and Injury Rates

The Army rates for disease only, for injury only, and for disease and injury combined are shown in Figure 4. Note that the rates for disease and for disease and injury combined are cut roughly in half as the data line moves from 1972 to 1973. This abrupt change in the trend line appears to be artifactual. That it is clearly related to the switchover from a manual to an automated data system, which occurred on 1 July 1973, is demonstrated by the month-by-month annualized rates for disease and injury combined presented in Table 2.

Table 2

Annualized Rates by Month for 1973 for Disease and Injury Combined

Active Duty Army Worldwide

Month	Rate
January	487
February	434
March	358
April	330
May	290
June	(270)*
6-mo. avg.	362
July	147
August	176
September	157
October	183
November	182
December	146
6-mo. avg.	165

*Note: Estimate from Zone of Interior (ZI) rate; worldwide rate not available for this month.

It is unlikely that the entirety of this abrupt shift in the rate of active duty admissions/dispositions to Army medical facilities can be correctly attributed to the policy of dropping quarters cases from disease counts after 1 July 1973. Air Force quarters cases accounted for only 28 per cent of its morbidity during a similar time period. This leaves unexplained the reason for the abrupt drop in Army morbidity, given the advent of automated data processing procedures. Were the data on the old Morbidity Reports (DA Form 3530) inflated? Was there a temptation for unit and post commanders to over-report morbidity and thereby gain increased medical resources? With the strict case-by-case accountability of the Army's Individual Patient Data System (IPDS), have the disease rates become a more adequate reflection of reality, or do cases simply fail to get entered into the system? We do know that IPDS grossly underestimates the Army death rate[9].

In any event, the abrupt drop in Army disease rate in 1973 is a troubling methodological finding, one over which Army morbidity enumerators, both past and present, might well lose considerable sleep. The problem is graphically displayed in Figure 5, a plot of the rate of disease and injury combined for Army active duty personnel, worldwide, from 1942 through 1979. The post-IPDS rates are like nothing previously approximated in the modern U. S. Army.

Yet, as we see in Figures 6, 10, and 14, IPDS-determined disease and injury rates are of the same general order as the rates obtaining in the Navy and the Air Force during a like period--1973 on. This suggests that it is the pre-IPDS Army morbidity rates that are amiss, and raises the question that Army medical history, at least in terms of morbidity estimates, need be re-written.

Remembering that Army disease and injury rates are depressed with respect to Air Force and Navy disease and injury rates because Health of the Army[1] does not publish incidence rates (only disposition rates) for these categories, and remembering, also, that Army rates derived from 12-month averaging may be under-representative of the actual annual rates, it is, nevertheless, of interest to compare the three services with respect to overall morbidity, which one can do by inspecting Figures 6, 10, and 14 and, at the same time, by compensating for the Army underestimates by adding perhaps a 10 to 20 per cent correction factor mentally to make the Army rates

comparable. The major findings appear to be that Air Force disease rates run somewhat higher than disease rates in the Navy and the Army, and that injury rates are higher in the Navy than in the other two services.

Turning to gender, the findings are extraordinarily consistent with respect to disease rates. Rates run from two to four times higher for women than for men considering all three services (Figures 11, 12, and 13). Injuries are greater for women in the Air Force (Figure 16) but not clearly so in the Army (Figure 15) or the Navy (Figure 17). Table 3 presents women to men ratios on disease and injury rates in the three armed services for 1978, calculated from the data in Appendix A.

Table 3

Women to Men Ratios on Disease and Injury Rates in the Three Armed Services, 1978

Rate	Women to Men Ratio		
	Army	Air Force	Navy
Disease and Injury Combined	2.6:1	2.8:1	2.5:1
Disease	2.9:1	3.7:1	3.0:1
Injury	1.1:1	1.5:1	1.0:1

Mental Disorder Rates

Mental disorder rates for the Army, Navy, and the Air Force, active duty worldwide, for the years 1970 through 1979, are plotted in Figure 18. The mental disorder rate for the Navy has risen during the decade, while the rate for the Army is lower in the second half of the decade than the first. Similarly, there has been a decline in the mental disorder rate for the Air Force in the last three years studied.

Women consistently sustain higher mental disorder rates than men in all three services (see Figures 19, 20, and 21), although the gap seems to be getting narrower, at least in the Air Force and the Navy. As the military population of women becomes equivalent to that of men on such variables as age, rank, and length of service, the differential in mental disorder rate may tend to disappear.

The women to men mental disorder rate ratio (i.e., the risk of women relative to men in suffering mental disorder) for each of the armed services in 1978 was as follows: Army 1.7 to 1, Air Force 2.5 to 1, and Navy 1.7 to 1. These ratios are notably smaller than the relative risks for women of disease in general noted earlier (see Table 3), so that one may conclude that the sex differential in mental disease is not so great as it is in disease in general.

It is interesting to observe the trends in psychiatric disease from World War II forward. Figures 22, 23, and 24 make it possible to do this for the Army, Air Force, and Navy, respectively. These Figures were constructed from the data compiled earlier by Datel[4] and from the more recent data compiled here. It would appear that the Army has been enjoying a relaxation in psychiatric illness rates since the Vietnam conflict. However, rates in the Navy are as high now as they have ever been during this 37-year period. Rates in the Air Force are elevated over what they were during a prolonged stable period in the 1950's and 1960's.

Rates for psychosis, neurosis, personality disorder and transient situational disturbance for each of the armed services, and for the Army and the Air Force by sex, are plotted in Figures 25 through 36. Psychosis tends to run highest in the Army, neurosis and transient situational disturbance highest in the Air Force, and personality disorder highest in the Navy. It is unknown to what extent these differences represent policy differences among the three services, differences in diagnostic conventionalities amongst the psychiatrists situated in each branch of service, or true incidence differences.

Turning to sex differences, in every pair of men-women data points obtained for psychosis, neurosis, personality disorder, and transient situational disturbance rates, women are notably higher than men--sometimes as much as five times higher (see Figure 36). Taken at face value, these data contradict the Dohrenwend and Dohrenwend[10] argument that women do not sustain more mental illness than men. These authors concede that women suffer more neurosis and manic-depressive symptomatology (especially underlying depression) but state that men exhibit higher rates of personality disorders than women.

Drug and Alcohol Disorder Rates

In Figures 37 through 45 are plotted the rates for alcoholism (ICD 303), for drug dependence (ICD 304), and for alcohol and drug disorders (ICD 303, 304, 7932, 793A-M) for the Army, Air Force, and the Navy; sex breakouts for the Army and the Air Force are also shown. In Figure 43, the Navy rate does not include improper use of alcohol (ICD 7932) and in Figures 43 and 45, the Air Force rates do not include improper use of alcohol (ICD 7932) or improper use of drugs (ICD 793A-M).

Throughout the decade, alcoholism (303) ran consistently higher than drug dependence (304) in all three services. However, in the Army when improper use of drugs is counted into the drug disorder rate and compared with the joint alcoholism and improper use of alcohol rate (see XIDADWW plus XDRADWW and compare with XALADWW plus XIAADWW in Appendix A), drug disorders predominate over alcohol disorders during the period 1973-1976. Army data for 1970-1972 were not available, but these years would probably also have shown the same predominance of drug disorders over alcohol disorders because this was the era of the Vietnam drug epidemic[11,12,13].

In Figure 37 note the step-like rise in the alcoholism rate from 1970 through 1978 in the Navy. This steady, upward progression shows no signs of leveling off and obviously must be carefully watched. In response to an earlier version of this paper, it was argued by Navy medical officials that this upward climb in the Navy alcoholism rate can be attributed largely to the increased emphasis by the Department of the Navy upon the recognition, diagnosis, and treatment of alcoholism. It would appear from Figure 37 that alcoholism, after a downturn from 1973 to 1976, may also be on the increase in the Army, where the Alcohol and Drug Abuse Prevention and Control Program has been operative since 1973[14].

In all three services drug dependence rates (Figure 40) seemed to be declining at the close of the decade from where they stood earlier in the decade. However, drug morbidity data in the military are difficult to interpret because of what was probably shifting political emphasis and nebulous diagnostic criteria in the wake of the drug epidemic in the early 70's.

Drug and alcohol disorder is one set of diseases wherein morbidity is greater for men than for women. The data are quite consistent in this finding (see Figures 38, 39, 41, 42, 44, and 45).

Medical Diseases and Conditions

Presented in Figures 49 through 65 are plots of the rates for several medical diseases and injuries: selected infectious intestinal diseases, hepatitis, respiratory infections, fractures, adverse effects of chemical substances, and genital organ disease. In the charts presented, rates are shown for Army, Air Force and Navy personnel, and for men and for women separately in Army and Air Force personnel. Sex breakouts are also shown for the Navy in the case of genital organ disease.

In two of the conditions studied, viz., hepatitis and upper respiratory infections (Figures 49 and 52), the Army rates are clearly and consistently higher than the rates for the Air Force or for the Navy. The hepatitis rate has declined in the Army over the decade, along with the decline in the Army's drug disorder rate--as one might expect. Beginning in 1973, the upper respiratory infection rate in the Army dropped sharply and remained down for the remainder of the decade, a phenomenon probably due to the advent of adenovirus vaccines, according to Colonel Richard N. Miller, Director of the Division of Preventive Medicine, WRAIR. Hepatitis peaked rather spectacularly in the Army in 1973. Again, Colonel Miller suggested that this peak is probably due to the epidemic of drug abuse in Europe (note the elevated 1973 values for XDAADEUR and for XHEADEUR in Appendix A) and to the epidemics of hepatitis at Fort Hood in 1973.

Infectious intestinal diseases in the Army (Figure 46) dropped dramatically from 1974 to 1975 and continued to remain at a low rate throughout the remainder of the decade. Infectious intestinal diseases in the other two services have stayed at a fairly constant level. The Air Force rate runs higher than the Navy rate, and may be showing a mild increase at the close of the decade.

Fracture rates (Figure 55) are low in the Air Force compared to Army and Navy rates. Adverse effects from medicinal/non-medicinal substances (Figure 58), while not assuredly so, tend to run highest in the Army and lowest in the Air Force; there is no clear pattern over time. Genital organ disease rates for men (Figure 61) are highest in the Air Force, but seemed to be declining slightly in all three services as the decade drew to a close. Genital organ disease rate for women (Figure 62) is also highest in the Air Force except in 1973 and 1974 when the Army rate showed exceptional peaks. Again, one sees in Figure 62 what was previously observed in Figures 46 and 52, i.e., a rather sharp drop in the Army rate data from 1974 to 1975. One grows suspicious that a common artifact may be contaminating the data in these instances. It would be comforting, for example, to have a rational post hoc explanation for the pronounced retardation in infectious intestinal disease in the Army that began in 1975.

As for sex differences, the findings are more clearly delineated. The rates are higher for Army and Air Force women than for men in all of these conditions (Figures 47, 48, 51, 53, 54, 59, 60, 63, 64, and 65) except fractures (Figures 56 and 57) and hepatitis in the Army (Figure 50), where the rates are higher for men than for women. Why hepatitis should run higher in women than men in the Air Force (and the reverse in the Army) must remain obscure; the difference is not great, but it is consistent over time. The genital organ disease rates are much, much higher for women than for men in all three services. Infectious intestinal disease rates for women in the Air Force run considerably higher than infectious intestinal disease rates for women in the Army, a rather curious finding. The marked sex discrepancy in the rate of adverse effects from medicinal/non-medicinal substances would seem to complement the often-reported observation that women attempt suicide more frequently than men[15] and that women, in their suicidal behavior, overdose with medications and toxic substances more frequently than men do[16,17].

Other Morbidity Indicators

The daily average number of hospital beds occupied is plotted for each armed service in Figure 66 and can be most meaningfully interpreted by joint inspection with Figure 1, a plot of the strength for each of the services. Trend lines in the two figures are very similar to each other, suggesting that bed occupancy follows force strength quite closely. It does appear, however, that in the case of the Navy, bed occupancy is reduced over the decade at

a steeper rate than is force strength, suggesting that proportionately less morbidity, shorter hospitalizations, or methods other than hospitalization to care for the sick may be underway in the Navy.

This same favorable trend for the Navy can be observed in the plot of hospitalization ratios in Figure 67. The Army hospitalization ratio went up in 1979 after declining for the previous nine years. The hospitalization ratio for the Air Force has held fairly steady throughout the decade, in spite of what we saw previously to be an ever increasing reliance upon quarters management to care for the sick (see Table 1). The women to men ratio of the hospitalization ratios for the Army in either 1978 or 1979 was 1.7 to 1 (cf. XHRFEMWW with XHRMALWW in Appendix A).

The non-effective ratio for the Air Force includes all excusals from duty for medical reasons (i.e., persons on quarters as well as persons hospitalized), while the same metric for the Army and the Navy counts hospital cases only. With this caveat in mind, one can turn to Figure 68, which plots the non-effective ratio for all three services for the decade. As surmised from Figures 66 and 67, medical non-effectiveness in the Navy drops sharply over the decade. Medical non-effectiveness in the Air Force competes favorably with the Army even though all medical excusals from duty are counted into the Air Force data. The women to men ratio of the non-effective ratios for the Army in 1978 was 2.2 to 1 and in 1979 was 2.0 to 1 (cf. XNRFEMWW with XNRMALWW in Appendix A).

Number of outpatient clinic visits ought, of course, to relate to force strength and we see that this is true when we compare Figure 69 with Figure 1. However, proportionately the Army seems to have more than its share of outpatient visits, the Air Force less.

COMMENT

It must be apparent to any reader who has persisted thus far that simply ordering these kinds of health data from the three armed services in a manner which enables meaningful inspection and justifiable comparison is a most tortuous and qualificatory enterprise. Proceeding onward to interpret such data is indeed hazardous, probably foolhardy. The conclusion eventually emerges that we have quite clearly been attempting to put information to use for purposes other than those originally intended. We have come to see that it is incorrect to assume standardization in conceptualization, standardization in data generation, or standardization in reporting, either across armed services or within one service over time. We are not dealing with a unified data base geared to respond to epidemiologic inquiry. To believe otherwise and to act accordingly (e.g., to assemble a report such as the one attempted here) is to respond to one's scientific interests and desires rather than to recognize the constraints of reality.

Having confronted imperfection, the point of departure becomes one of salvaging whatever substance emerges in spite of it all, of identifying troublesome issues of form and design, and of specifying what needs to be done to right wrongs so that we may find scientific sustenance in a less imperfect world. The data, as we have come to know them, tell essentially a two-fold story: One, they do carry <u>some</u> substantive information about the distribution of the occurrence of disease and injury in the armed forces, and two, they point up major deficiencies in the structure and arrangement of the data system(s).

Matters of Substance

The following substantive findings are the major ones to emerge from the study:

(a) Rates for incidence of disease in the Air Force ran somewhat higher than rates for disease in the Army or the Navy.

(b) Rates for incidence of injury trended higher in the Navy than in the Army or the Air Force.

(c) The risk of service women contracting disease resulting in hospitalization ran two to four times higher than of service men contracting hospitalization-resulting disease. For injury-producing hospitalization, the risks were about equal for men and for women in the Army and in the Navy, but were approximately 1.5 times greater for Air Force women than for Air Force men.

(d) Immediately following the rise in psychiatric disorder rates during the latter part of the Vietnam period, the Army enjoyed a period of relative quiescence in psychiatric rates for the remainder of the decade. The pattern of psychiatric disease for the Air Force for the decade was similar.

(e) While the Navy compared handsomely with its overall disease rate, and with its declining hospitalization and non-effective ratios, its record in the latter part of the 1970's with respect to mental disorder was the poorest of the three services and was the poorest it had been in the Navy itself for the previous 37 years, including World War II. This high psychiatric morbidity in the Navy was traceable mainly to an explosive alcoholism rate and to an elevated personality disorder rate.

(f) The relative risk of women to men in sustaining a hospitalization-producing mental disorder of some kind was not so great as in the case of disease in general; it was approximately two to one.

(g) The psychiatric rate for women was higher than for men in every specific psychiatric disease studied except those related to drugs or alcohol, where the rate was higher for men than for women.

(h) Rates for hepatitis and for upper respiratory infection ran higher in the Army than in the Air Force or the Navy, although URI has been down significantly since 1975.

(i) Infectious intestinal diseases dropped dramatically in the Army from 1974 to 1975 and stayed down throughout the remainder of the decade. Infectious intestinal diseases were notably higher in Air Force women than in Army women.

(j) Fracture rates were lowest in the Air Force, while genital organ disease rate was highest in the Air Force.

(k) Genital organ disease rate was several times higher in women than in men for all three services for all years studied.

(l) Of all the diseases studied, only the following showed higher rates for men than for women: drug and alcohol disorders, fractures, and hepatitis in the Army (not hepatitis in the Air Force). The excessive morbidity in women caused their non-effective ratio to be over two times greater than the non-effective ratio for men, in the Army. In the Air Force, female morbidity over male morbidity was even greater than in the Army or the Navy.

(m) Clearly, morbidity findings in the military offer no exception to the generally observed paradox that women are sicker, yet live longer, than men[18]. This, of course, makes women a somewhat more expensive proposition than men for the military--when all other considerations (e.g., productivity) are equal.

Matters of Form

The following structural deficiencies in the data system(s) are the main ones exposed by the study:

(a) Failure to report on the same disease categories. For example:

- In 1973, the Army changed from reporting on all psychiatric diseases combined and from reporting on selected psychiatric diseases to reporting on selected psychiatric diseases only.

- The Air Force and the Navy report all mental disease (Class V in ICD), while the Army does not.

- The Air Force does not report on improper use of drugs or improper use of alcohol; the Navy does not report on improper use of alcohol; and the Army reports on both improper use of drugs and improper use of alcohol.

- Diseases of the breast are not reported on separately for men and for women in the Army, while diseases of the breast are reported separately for men in the Air Force and the Navy and diseases of the breast are pooled with genital organ disease for women in the Air Force and the Navy.

(b) Failure to use the same metric in reporting morbidity. For example:

- In 1973, the Army switched from counting admissions to counting dispositions to arrive at disease and injury estimates.

- The Army fails to report incidence data (i.e., count of number of diagnoses) for disease and injury categories, while the Air Force and Navy do report such data.

- The Army counts carded for record only (CRO) cases in its disposition rates, but does not count CRO's in its incidence rates. The Air Force does not count CRO's in its excusal rate or its incidence rate. The Navy apparently does not count CRO's in its admission or its incidence rates.

- The Air Force counts diagnoses from cases placed on quarters in its published incidence rates, while the Army and the Navy do not.

- The Army switched in 1973 from including quarters cases in its morbidity counts to excluding them.

- The non-effective ratio for the Air Force includes all excusals from duty for medical reasons (i.e., persons on quarters as well as persons hospitalized), while the non-effective ratio for the Army and the Navy counts hospital cases only.

- The Army does not include in its rates any of its personnel hospitalized in Navy or Air Force medical facilities. The Air Force and the Navy do include their members hospitalized in the medical treatment facilities of the other two armed services.

(c) Failure to publish information on the same parameters. For example:

- The Army does not publish the strength figures on which the rates are based. The Air Force and the Navy do.

- Publishing rates by sex began in 1978 for the Army. The Navy has published incidence rates for men and for women from 1970 on for the major ICD classes. The Air Force has published incidence rates for women (but not for men) from 1970 on for the major ICD classes.

- The Army does not publish any data in its Health of the Army[1] by age. The Air Force publishes number of excusals by 5-year age groupings. The Navy publishes incidence rates by 5-year age groupings.

- Health of the Army[1] does not publish any data by rank. The Air Force publishes incidence and excusals for officers and for enlisted personnel. The Navy publishes incidence rates for officers and for enlisted personnel.

(d) Failure to publish data in a timely fashion.

- There is approximately a two-year publication lag in the medical annual report of each of the three armed services.

Future Prospects

This report has attempted to demonstrate that the kind of information contained in the annual reports of the Surgeons General of the three armed forces has the potential to enable description of disease trends and patterns within and between the armed services. This report has also attempted to demonstrate that the three data systems as they are now designed and as they now operate fall short of providing a coordinated epidemiological data base responsive to the needs of the military medical scientist and, in turn, to the military community.

Mindful that carpings from one quarter alone will not a case make, we should argue in favor of the formation of a task force to study the problems surfaced here and elsewhere[e.g.,9] and to draft a set of recommendations for the Secretary of Defense, leading to the formation of a data system geared to serve the needs of both the military medical manager and the military epidemiologist.

As a point of departure, such a task force may wish to deliberate upon the following list of considerations for developing a fully integrated, standardized, comprehensive, responsive data base.

(a) Conceptualization of the purpose of generating and maintaining a unified data base.

(b) Formulation of the diseases, disease categories, and other morbidity indicators to be studied and reported.

(c) Formulation of the population groupings to be studied. For example:

- branch of service
- sex
- age
- grade
- recruit status
- major command

(d) Establishment of linkage with existent personnel data base systems so that additional demographic variables can be studied. For example:

- race
- marital status
- education
- intelligence
- length of service
- unit of assignment
- military occupational specialty
- military performance

(e) Provision for conducting probability sampling surveys so that other variables believed related to matters of sickness and health can be studied. For example:

- physical exercise
- diet and nutrition
- tobacco use
- sexual activity
- sleep habits
- fertility
- recreation patterns
- social support network
- health history
- social history
- exposure to environmental toxins

(f) Structuring the data base along the lines of a case registry so that cohort studies, as well as cross-sectional, population studies, can be engineered.

(g) Deciding upon the metrics, formats, and time lines to be used in generating standardized reports.

(h) Developing procedures to enable users to access the data base directly so that quality control of the data base will be furthered by user feedback.

(i) Establishment of a tri-service users' committee to control the system's development, operations, maintenance, and modifications.

The present state of the art of computer technology makes such a system feasible. The question becomes, Is the state of the art of military medical management up to the challenge of arranging for the application of such computer technology?

ACKNOWLEDGEMENTS

I thank my colleague, Joseph M. Rothberg, for his consultation and moral support throughout this effort. Richard Oldakowski processed the Air Force data tapes; I thank him for his technical assistance. I am grateful to the Biometrics Division of the Directorate of Health Care Support, Office of the Surgeon General, Department of the Air Force and to the Navy Medical Data Services Center, Office of the Surgeon General, Department of the Navy for providing unpublished and pre-published data and for their general support in making this study possible. I thank Patient Administration Division and Patient Administration Systems and Biostatistics Activity, Office of the Surgeon General, Department of the Army for their interest in and support of this effort. I wish also to thank the following individuals who reviewed an earlier version of this paper and who rendered many helpful comments and suggestions: L. E. Angelo, William S. Augerson, Maude Hamilton, Robert J. T. Joy, Llewellyn J. Legters, David Marlowe, Richard N. Miller, Frank J. Perri, Garrison Rapmund, William R. Tuten III, John H. Vinyard, Jr., and Edward Wieben.

DISCLAIMER

The views expressed in this paper are those of the author only and do not purport to reflect the positions of the Department of the Army or the Department of Defense.

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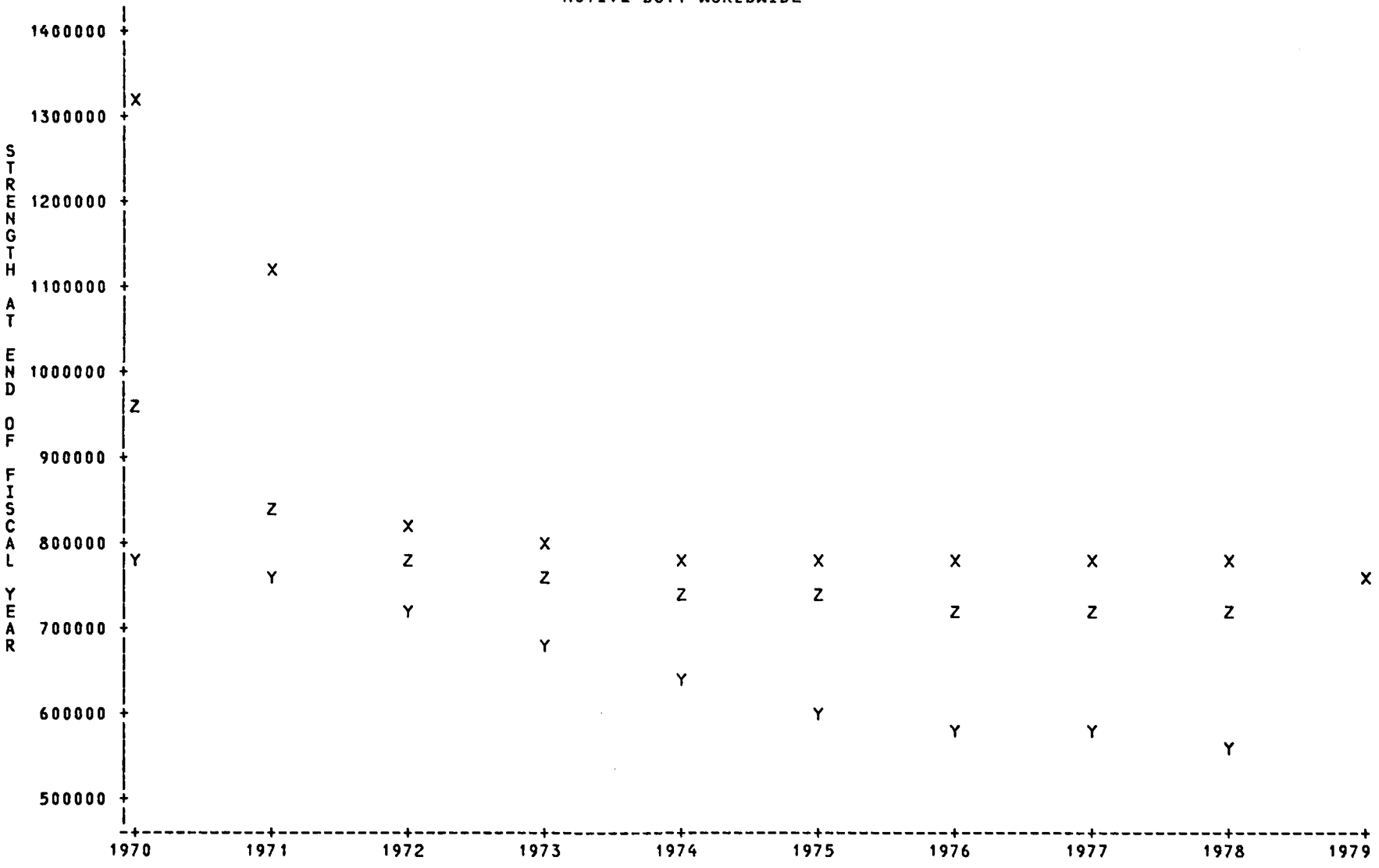
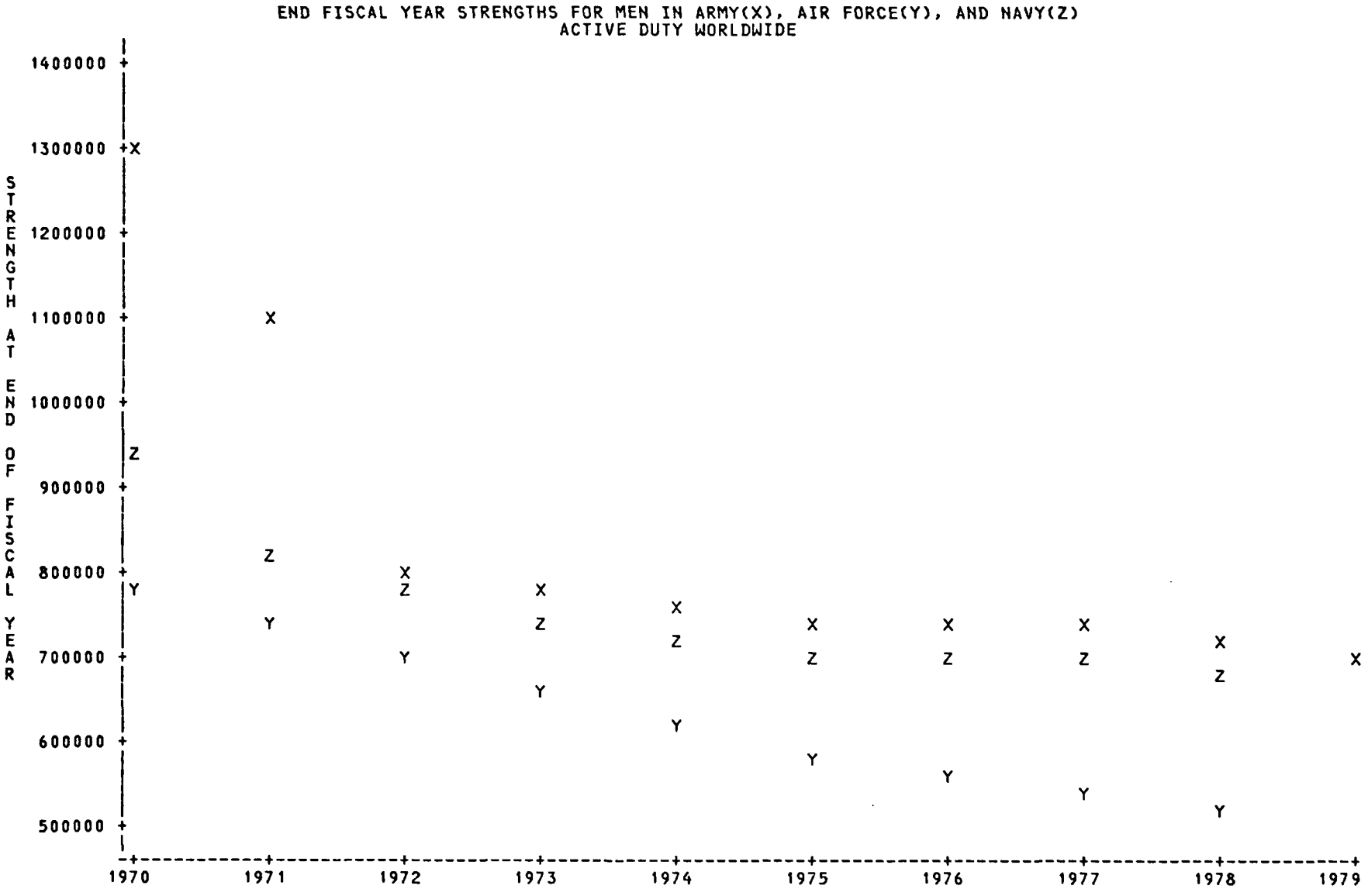
END FISCAL YEAR STRENGTHS FOR ARMY(X), AIR FORCE(Y), AND NAVY(Z)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

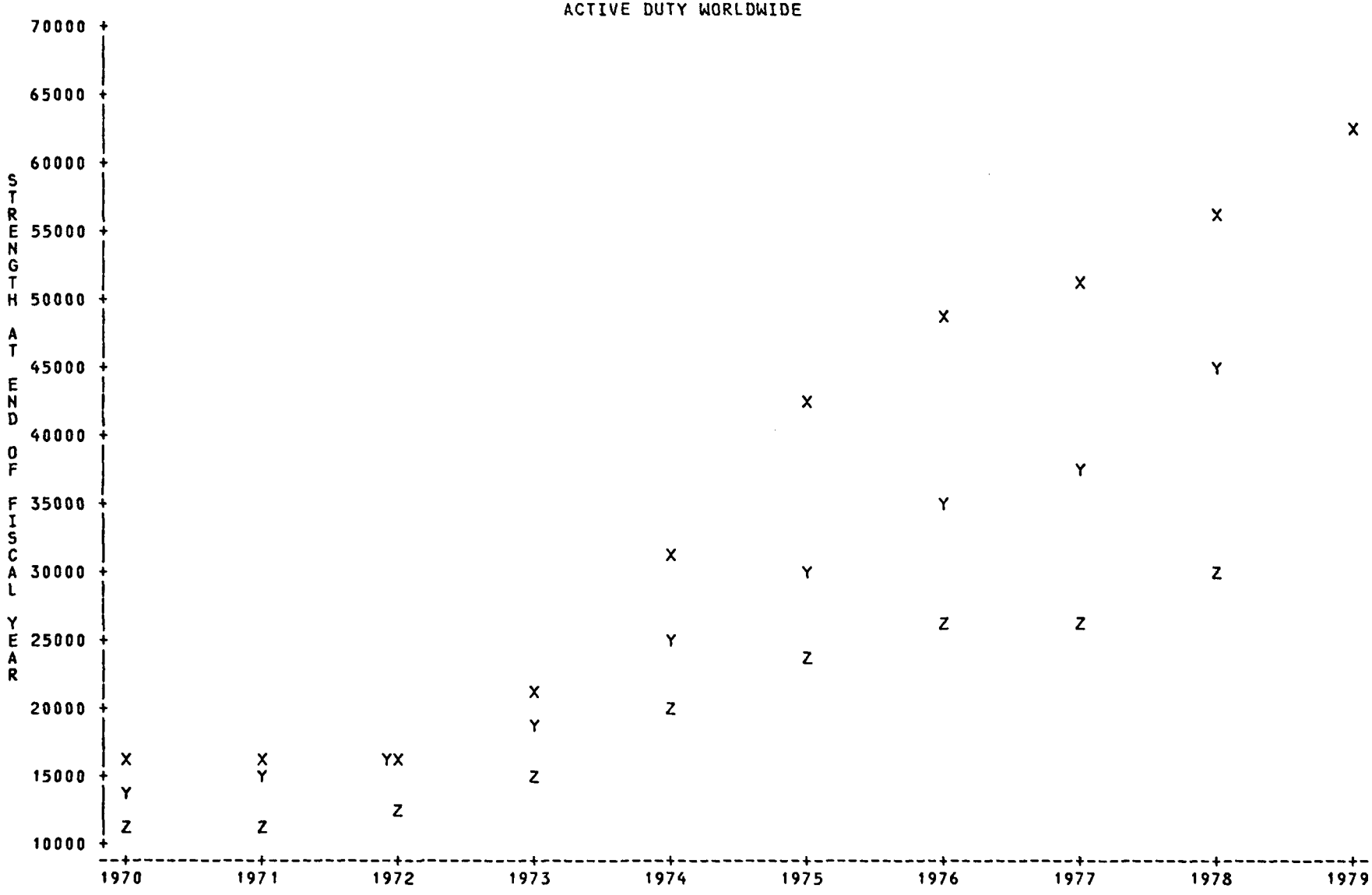
FIG. 1. XSTADWW, YSTADWW, ZSTADWW



NOTE 2 OBS HAD MISSING VALUES

FIG. 2. XSTMALWW, YSTMALWW, ZSTMALWW

END FISCAL YEAR STRENGTHS FOR WOMEN IN ARMY(X), AIR FORCE(Y), AND NAVY(Z)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

FIG. 3. XSTFEMWW, YSTFEMWW, ZSTFEMWW

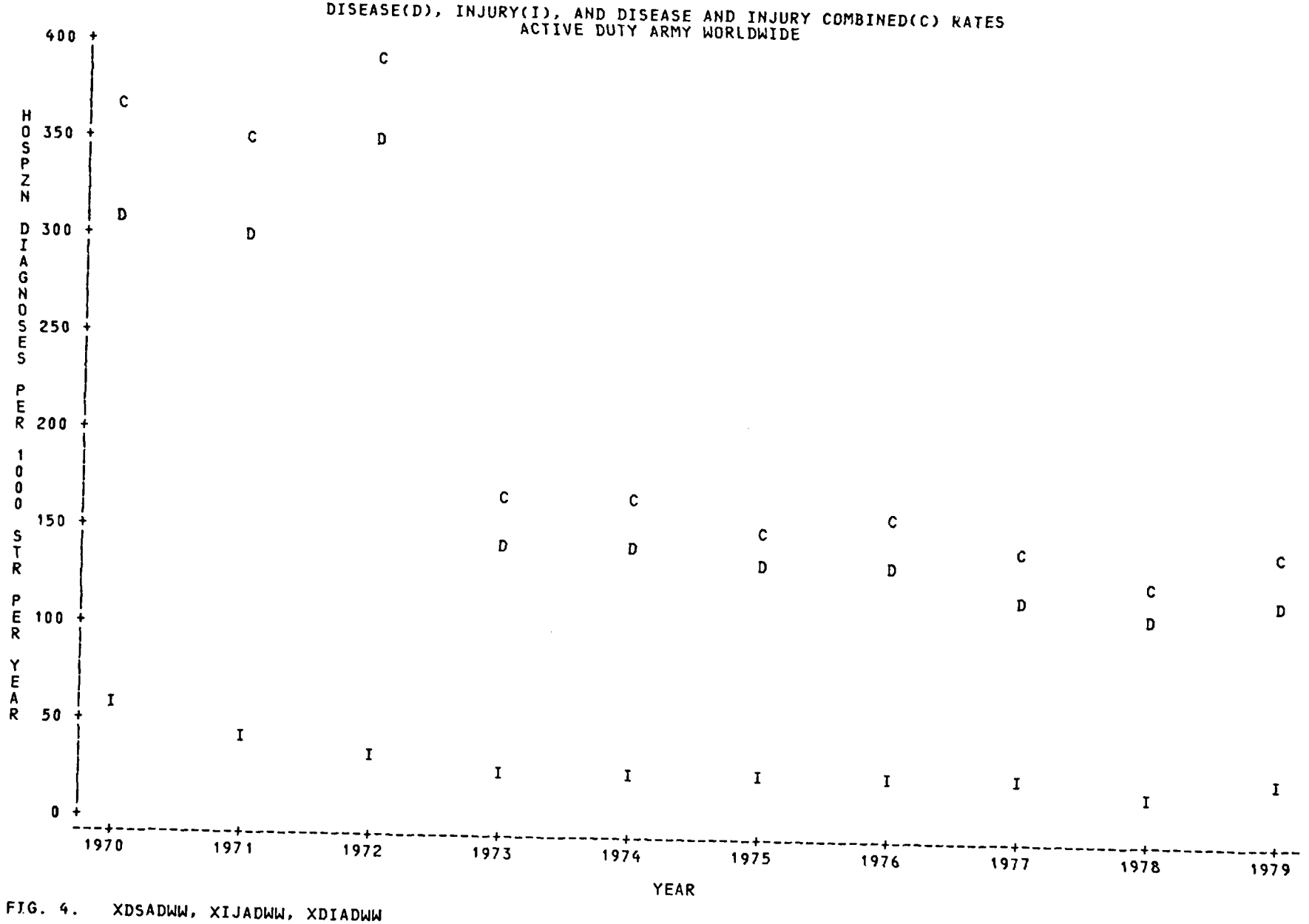


FIG. 4. XDSADWW, XIJADWW, XDIADWW

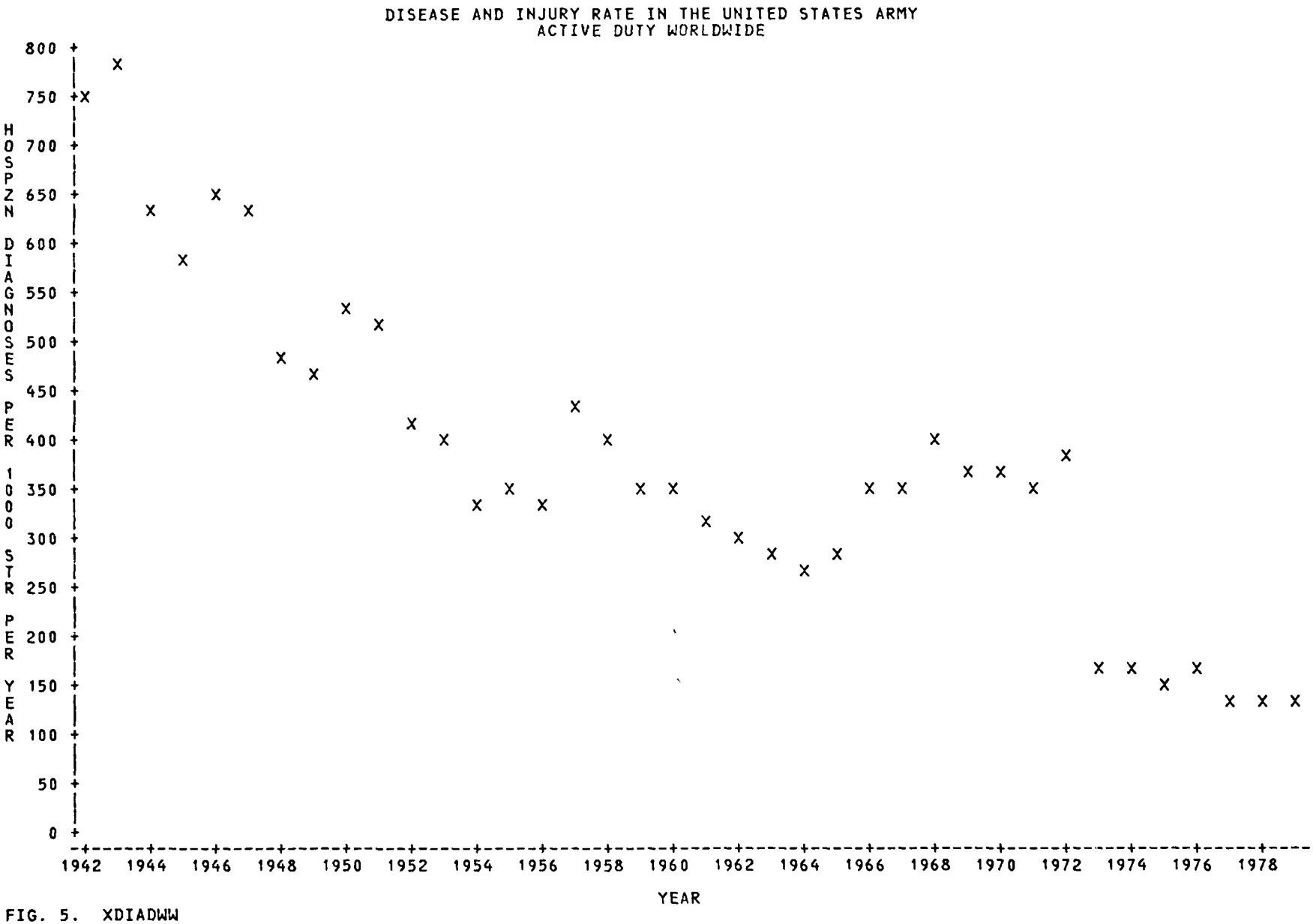
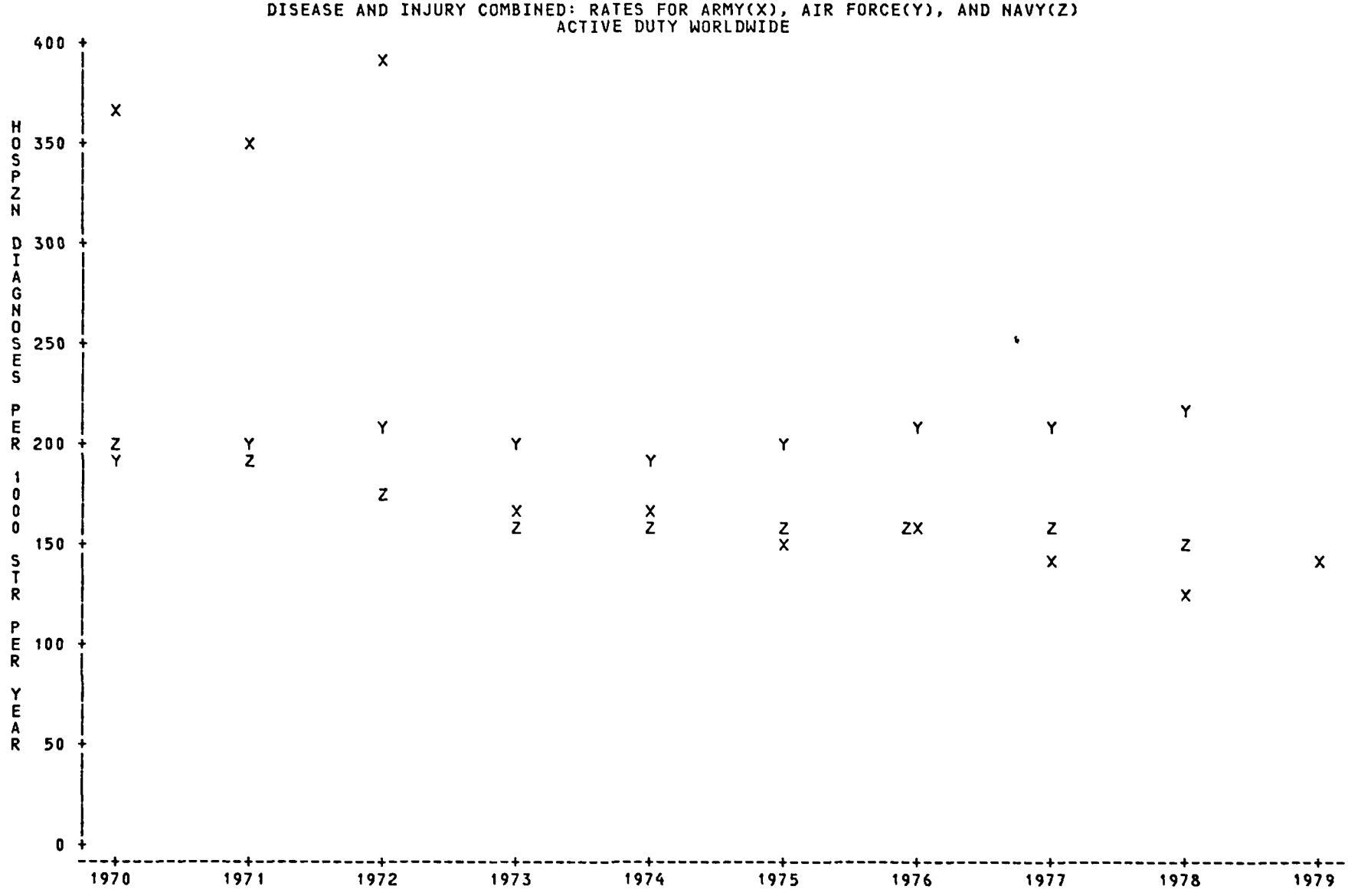
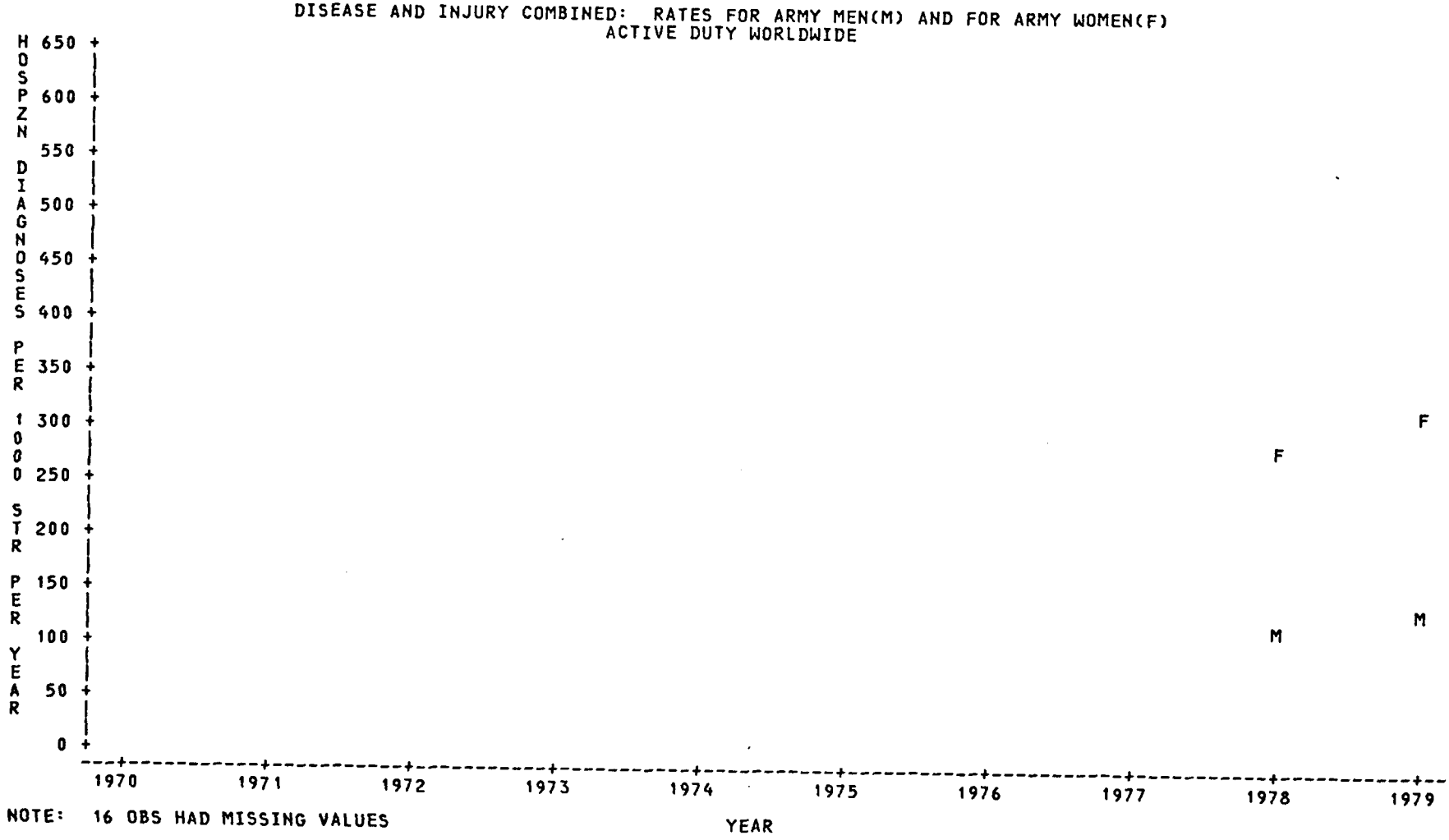


FIG. 5. XDIADWW



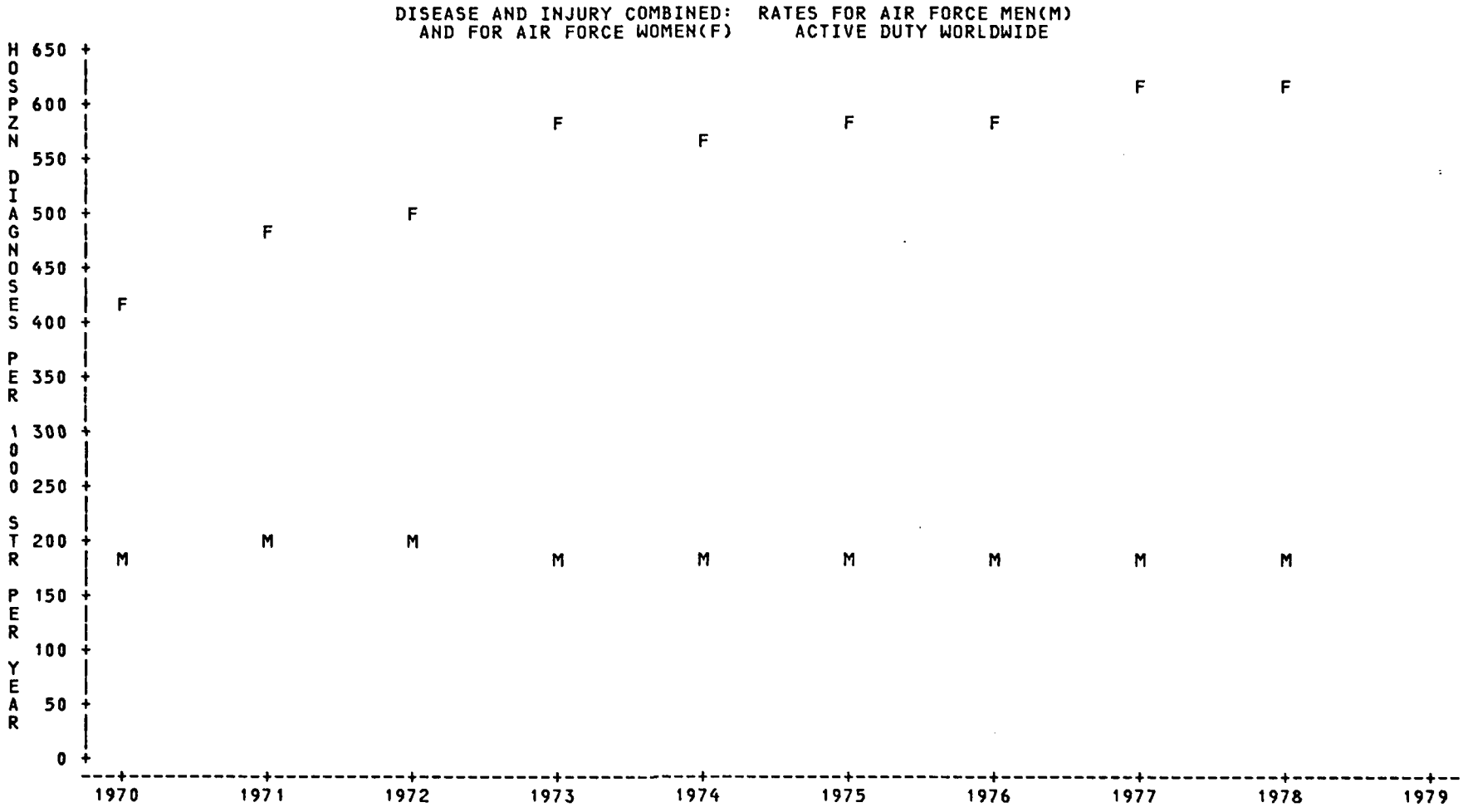
NOTE: 2 OBS HAD MISSING VALUES

FIG. 6. XDIADWW, YDIADWW, ZDIADWW



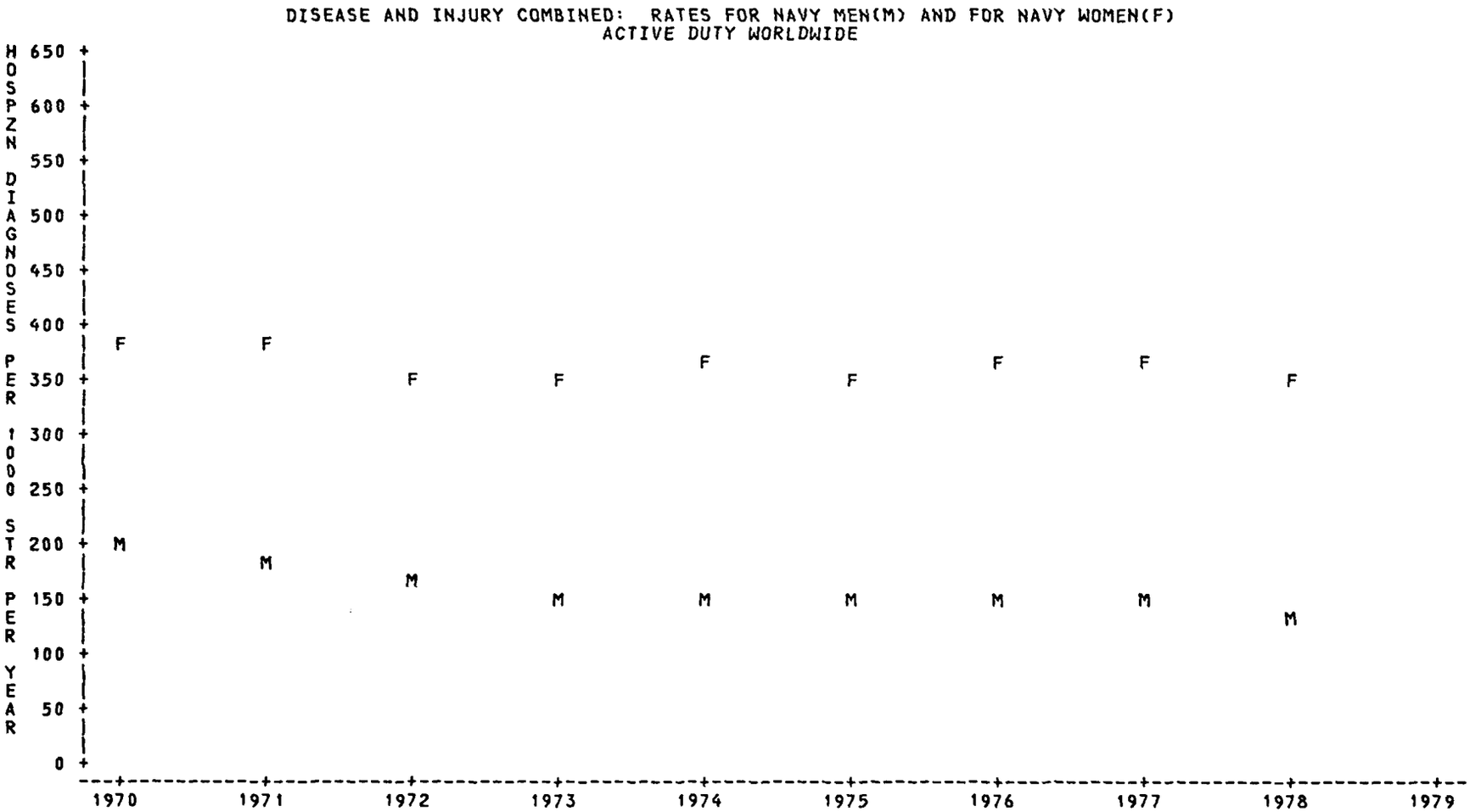
NOTE: 16 OBS HAD MISSING VALUES

FIG. 7. XDIMALWW, XDIFEMWW



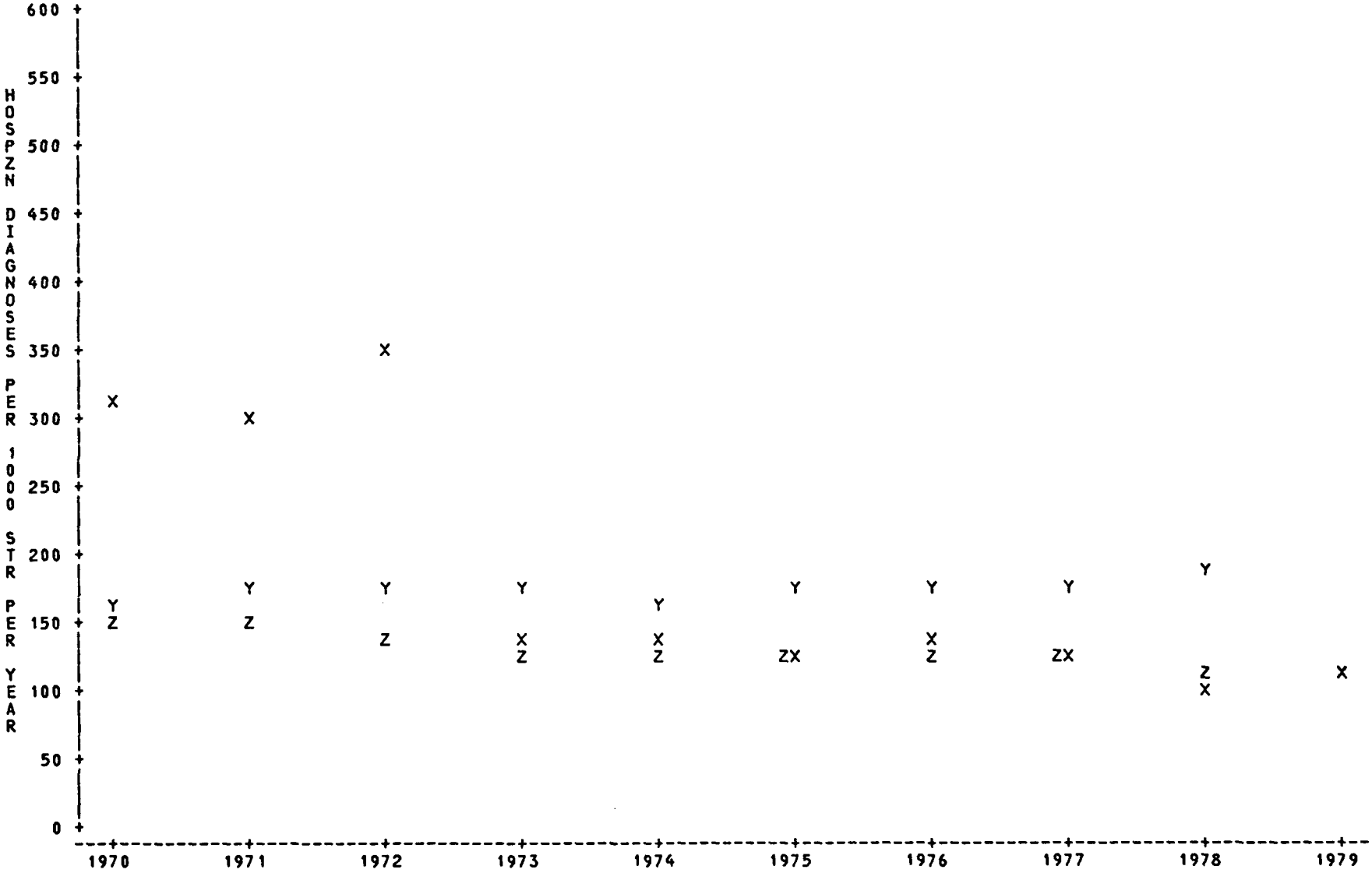
NOTE: 2 OBS HAD MISSING VALUES

FIG. 8. YDIMALWW, YDIFEMWW



NOTE: 2 OBS HAD MISSING VALUES

FIG. 9. ZDIMALWW, ZDIFEMWW



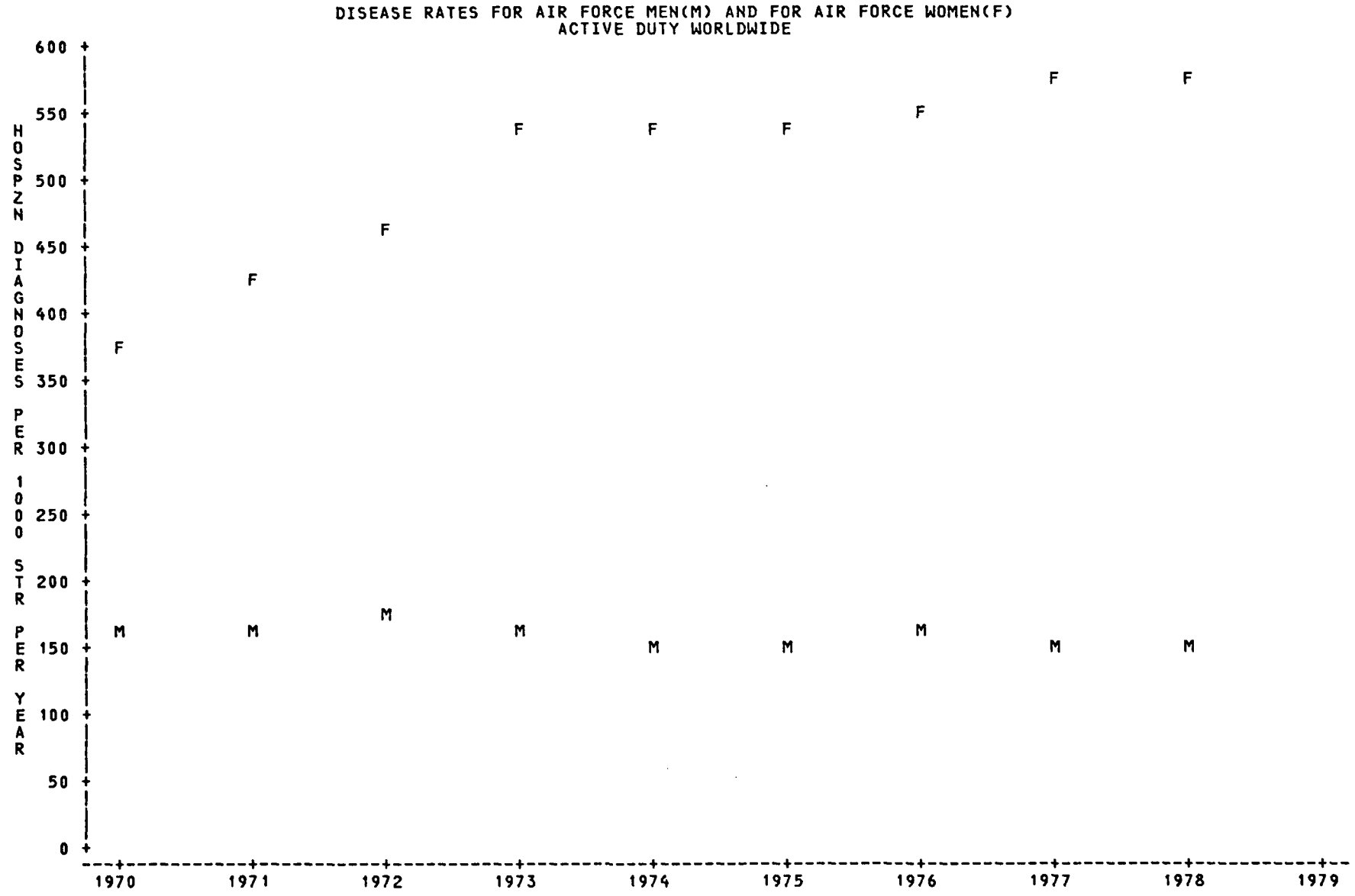
NOTE: 2 OBS HAD MISSING VALUES

FIG. 10. XDSADWW, YDSADWW, ZDSADWW

DISEASE RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F)
ACTIVE DUTY WORLDWIDE

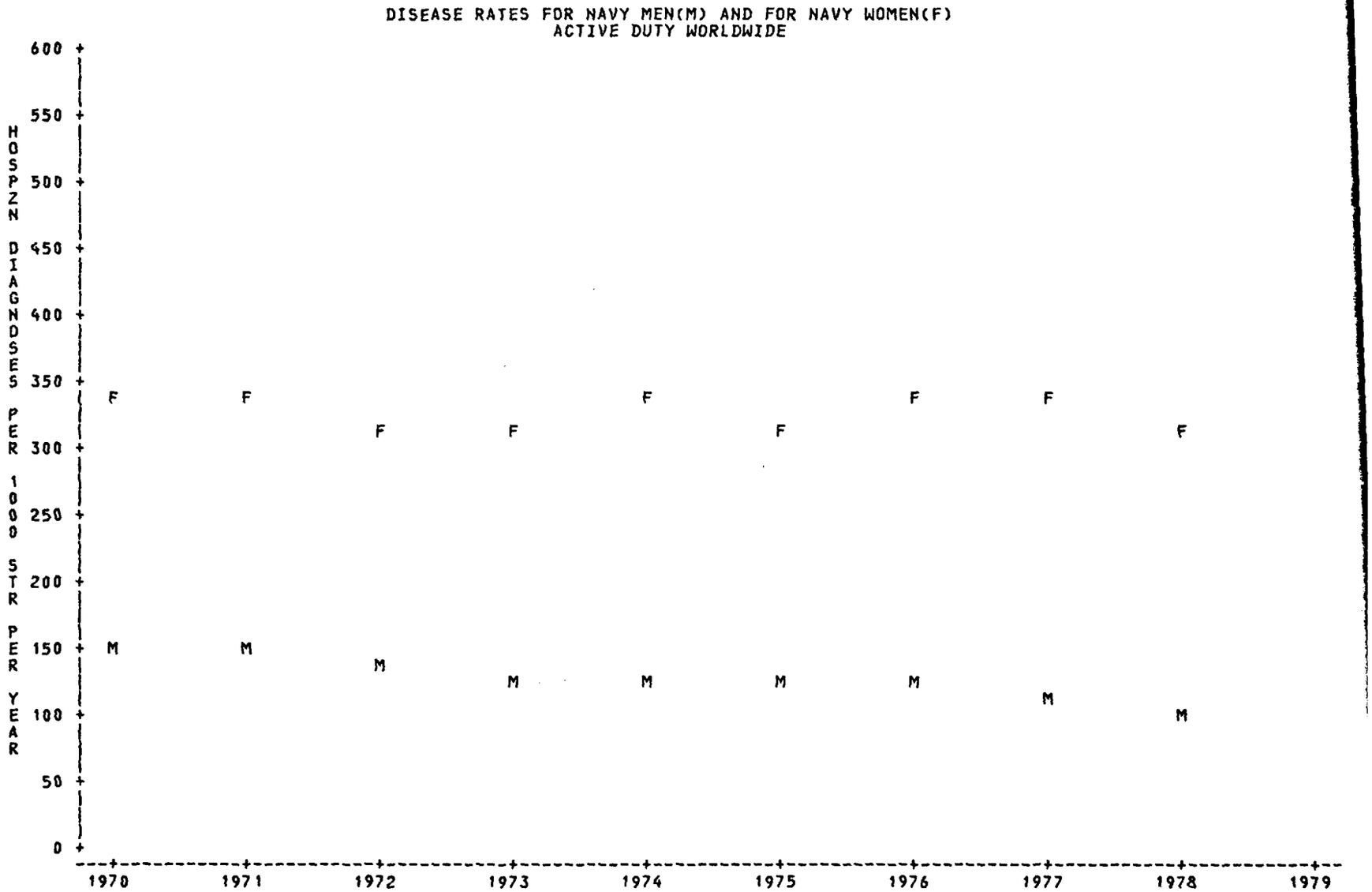
NOTE: 16 OBS HAD MISSING VALUES

FIG. 11. XDSMALWW, XDSFEMWW



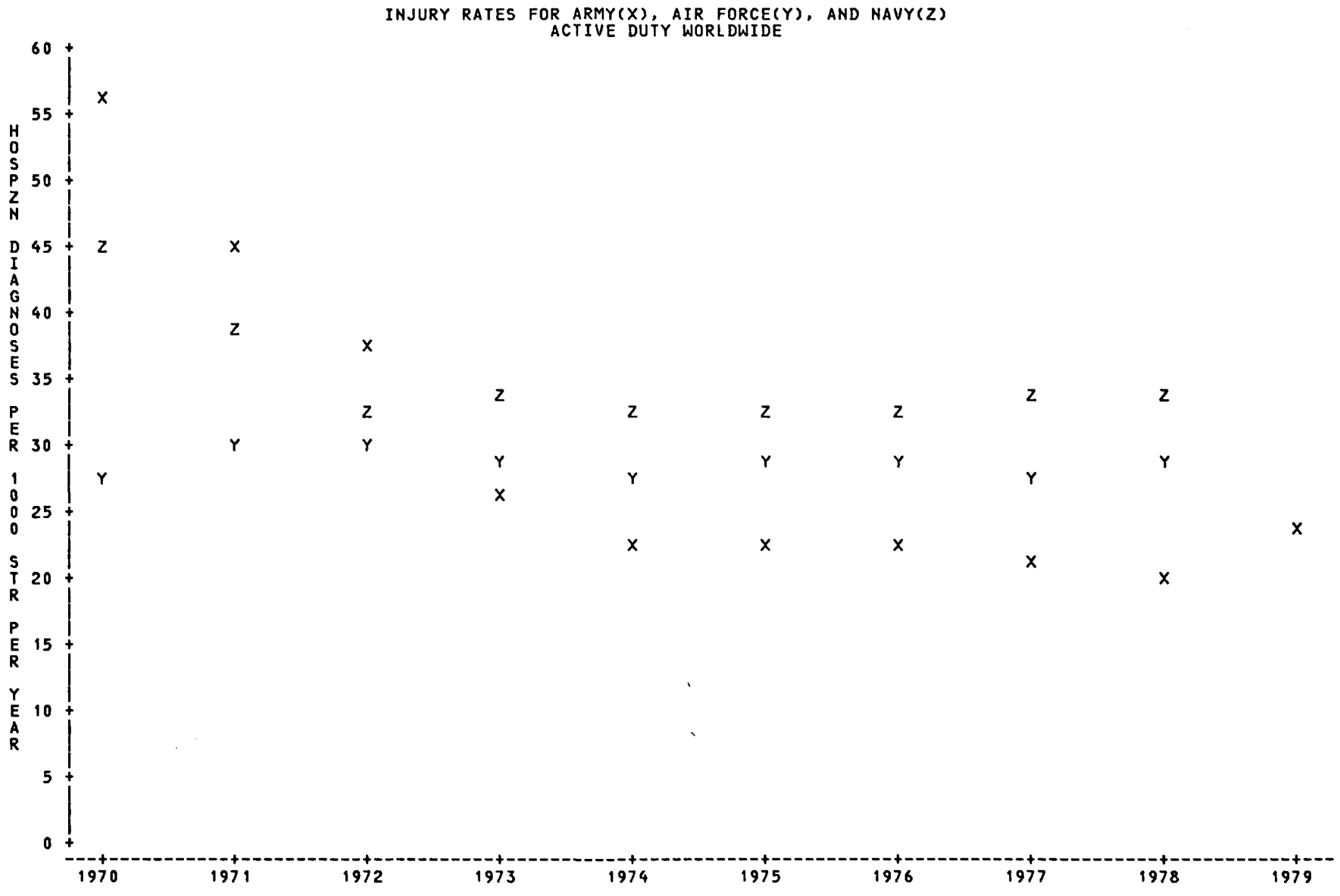
NOTE: 2 OBS HAD MISSING VALUES

FIG. 12. YDSMALWW, YDSFEMWW



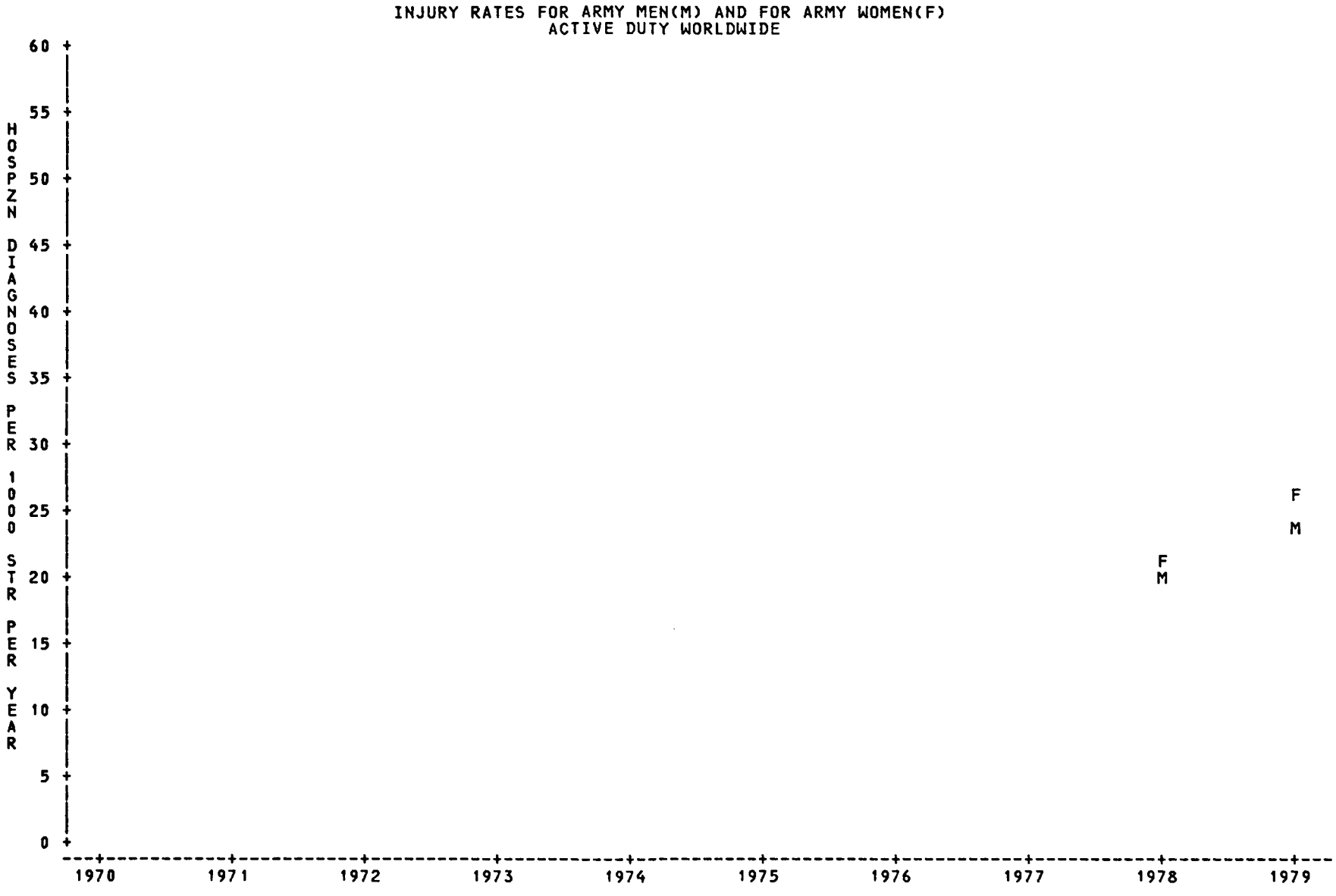
NOTE: 2 OBS HAD MISSING VALUES

FIG. 13. ZDSMALWW, ZDSFEMWW



NOTE: 2 OBS HAD MISSING VALUES

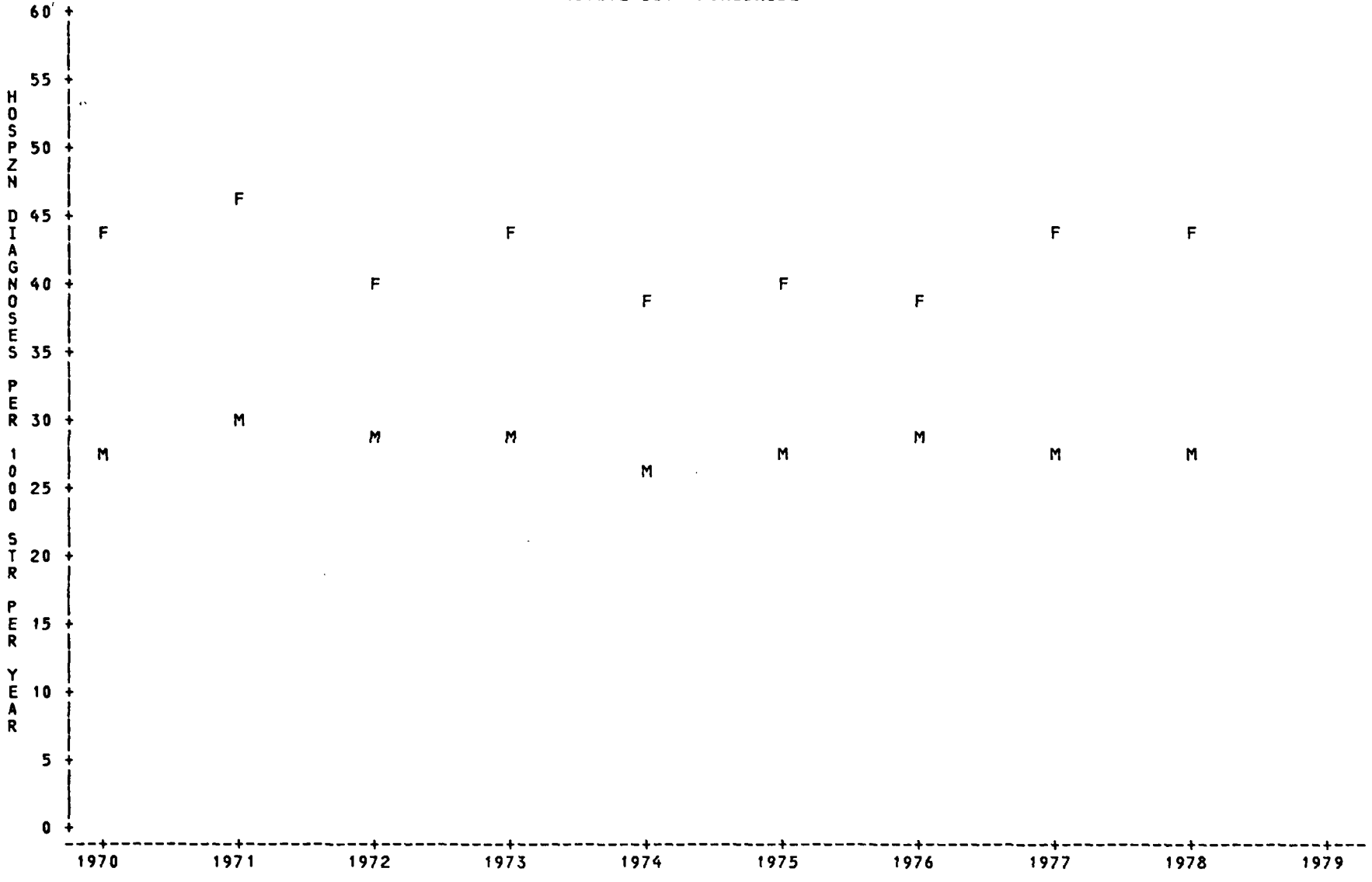
FIG. 14. XIJADWW, YIJADWW, ZIJADWW



NOTE: 16 OBS HAD MISSING VALUES

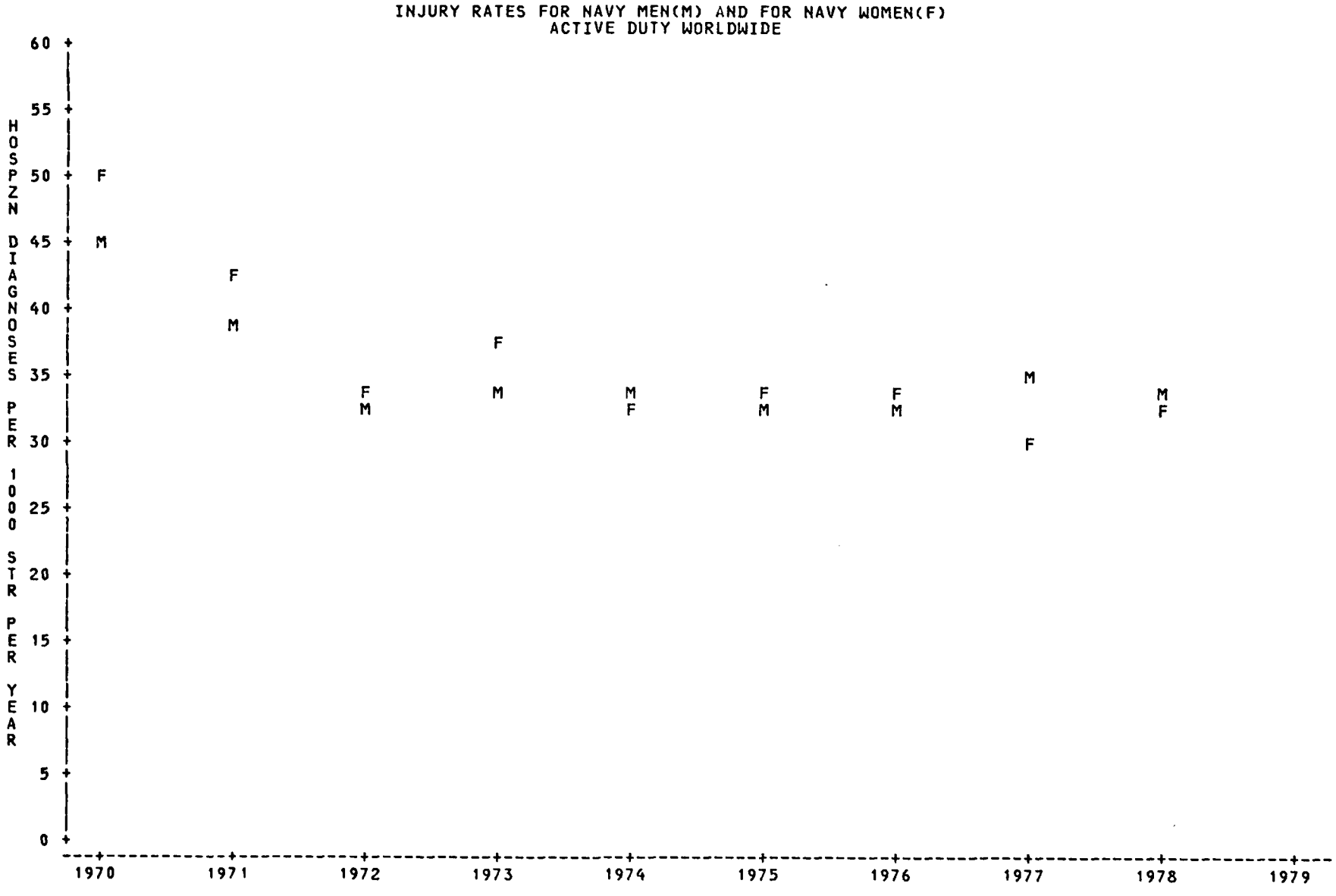
FIG. 15. XIJMALWW, XIJFEMWW

INJURY RATES FOR AIR FORCE MEN(M) AND FOR AIR FORCE WOMEN(F)
ACTIVE DUTY WORLDWIDE



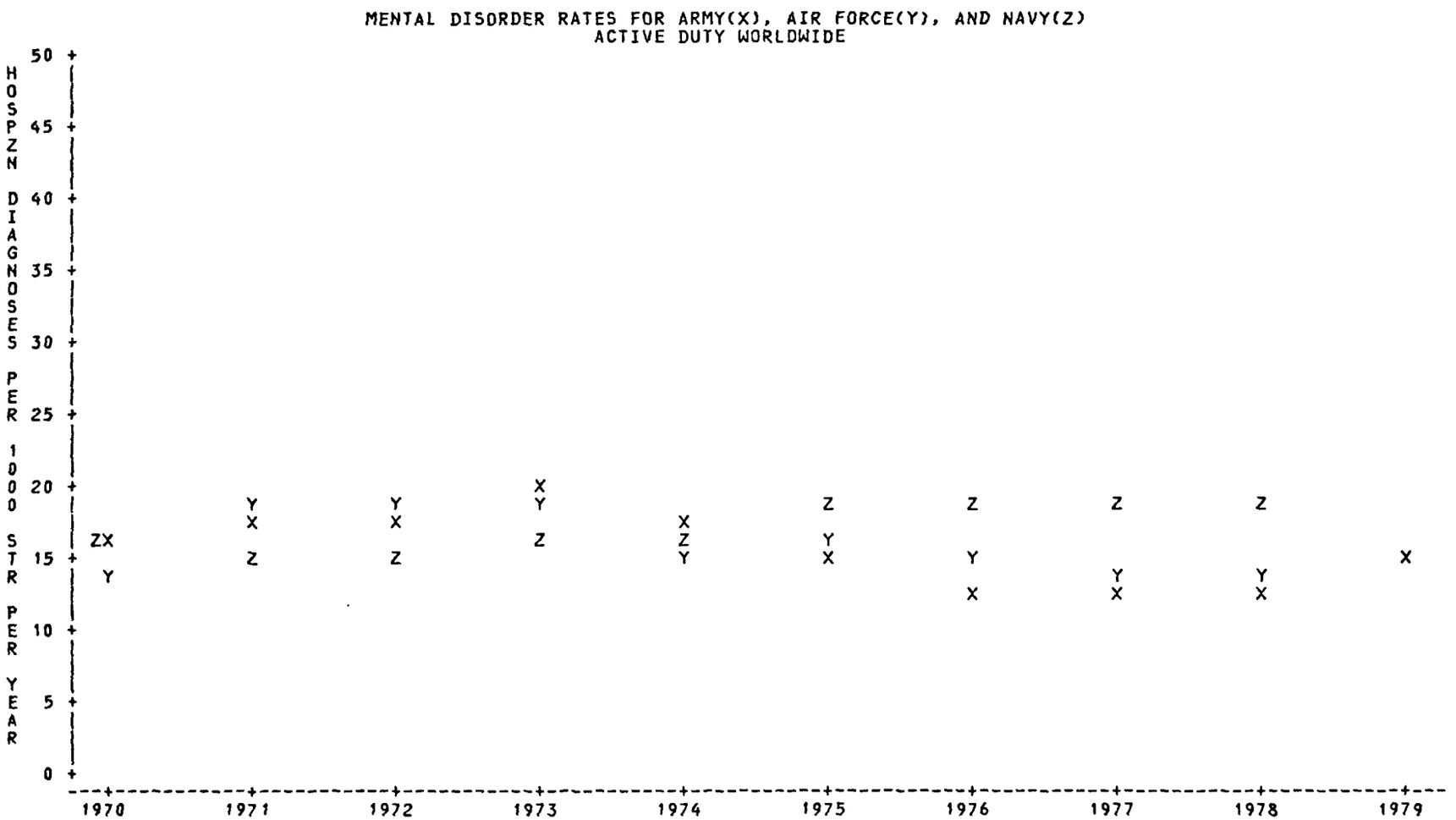
NOTE: 2 OBS HAD MISSING VALUES

FIG. 16. YIJMALWW, YIJFEMWW



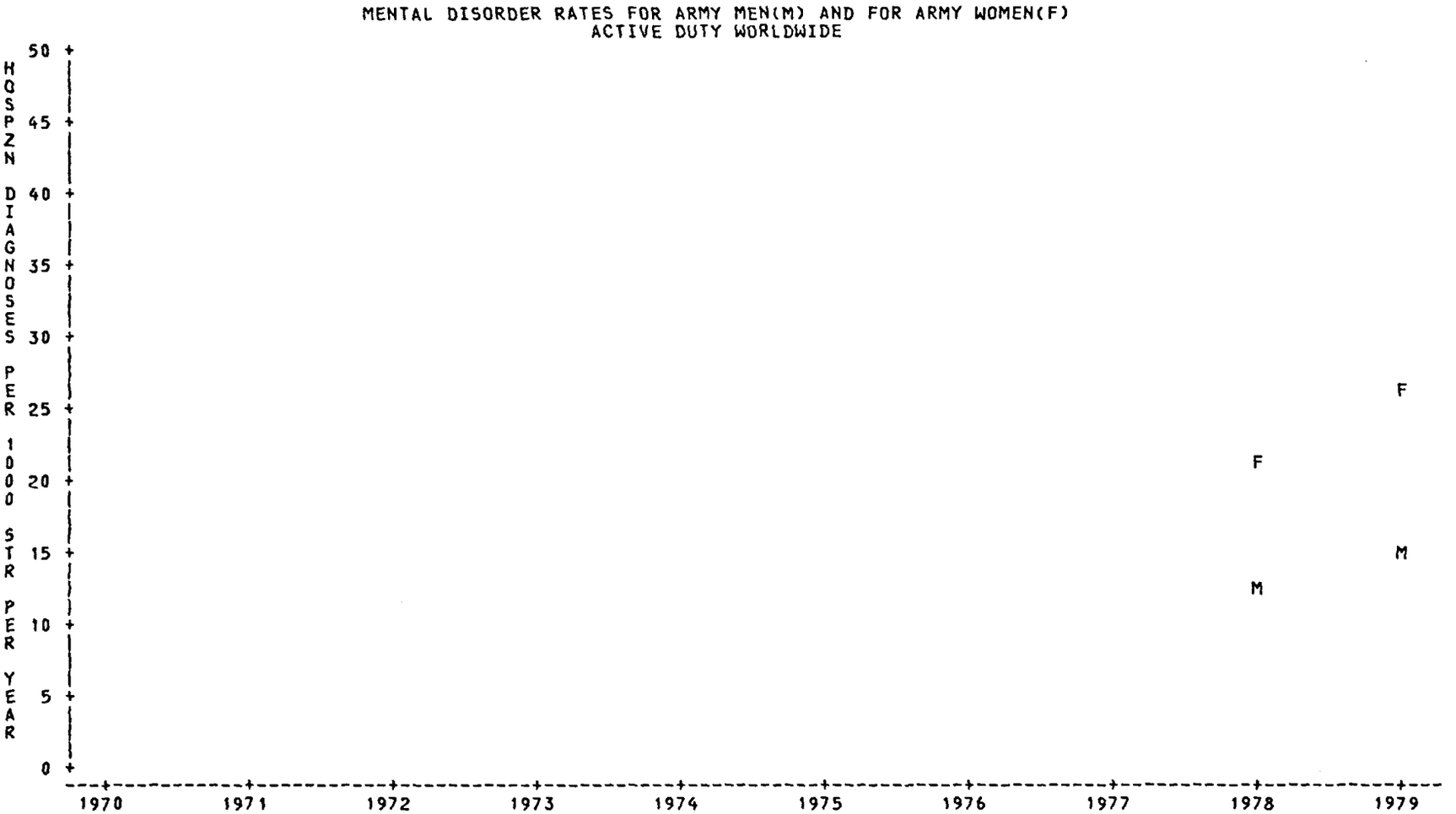
NOTE: 2 OBS HAD MISSING VALUES

FIG. 17. ZIJMALWW, ZIJFEMWW



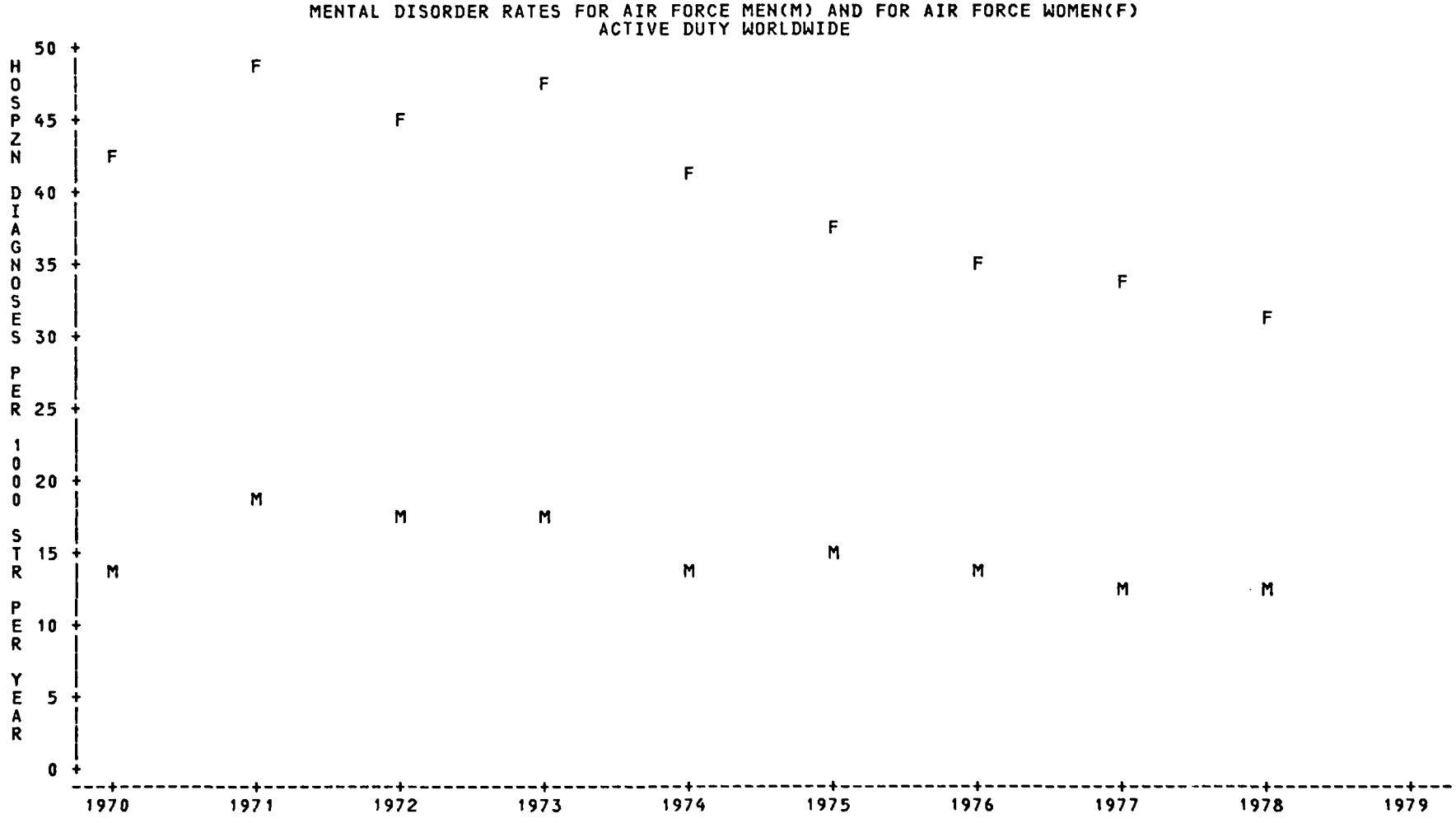
NOTE: 2 OBS HAD MISSING VALUES

FIG. 18. XMDADWW, YMDADWW, ZMDADWW



NOTE: 16 OBS HAD MISSING VALUES

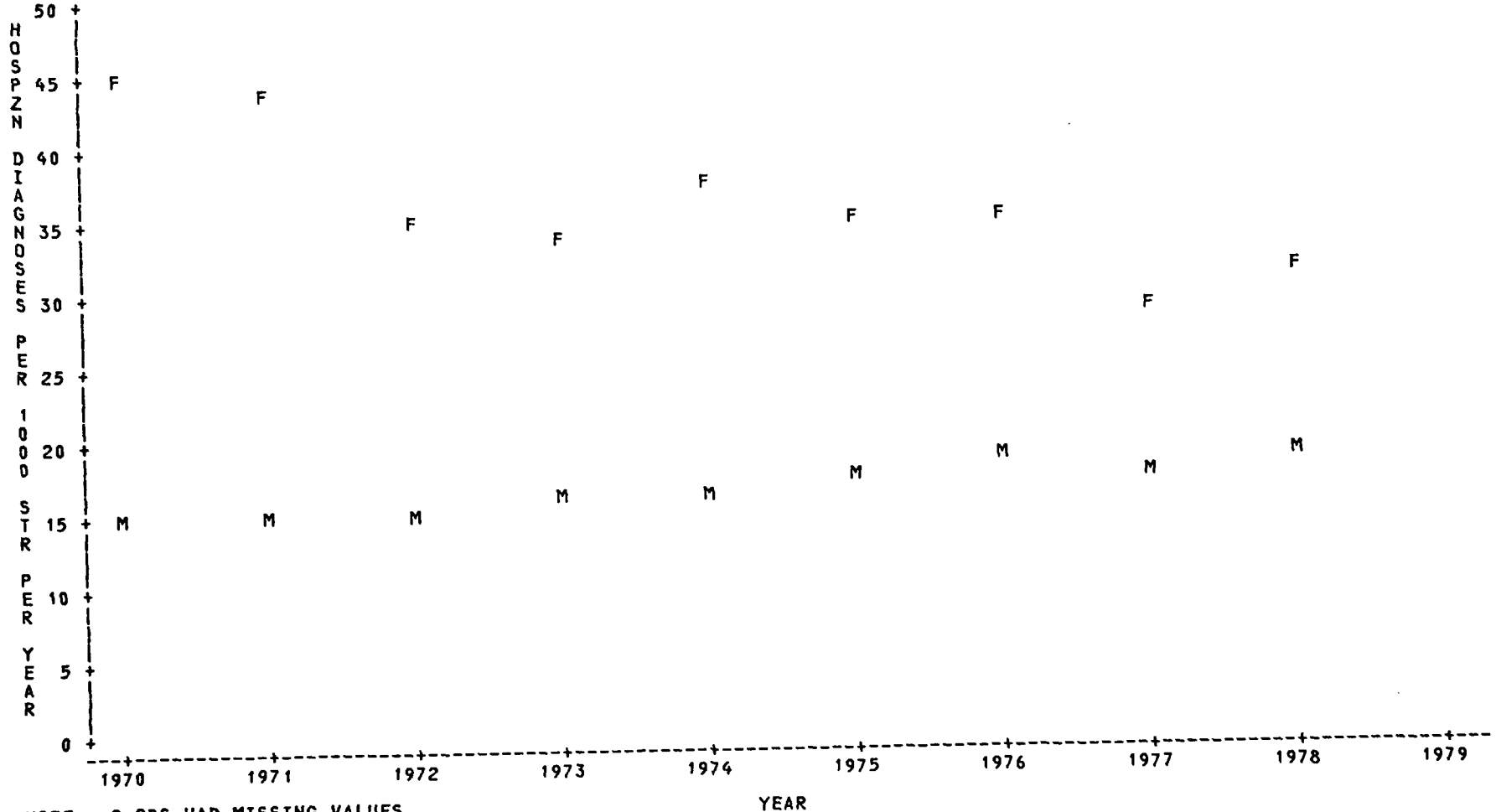
FIG. 19. XMDMALWW, XMDFEMWW



NOTE: 2 OBS HAD MISSING VALUES

FIG. 20. YMDMALWW, YMDFEMWW

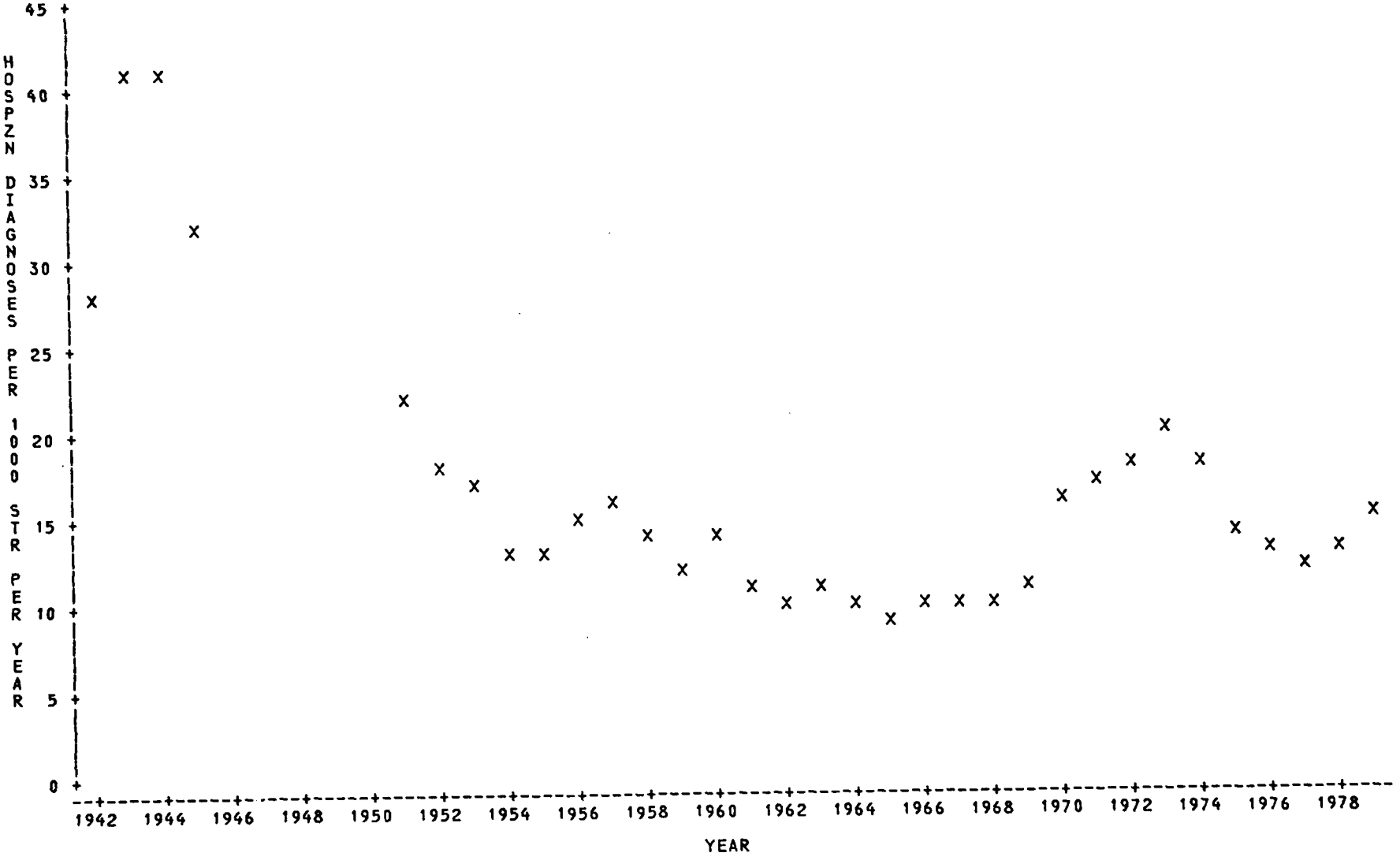
MENTAL DISORDER RATES FOR NAVY MEN(M) AND FOR NAVY WOMEN(F)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

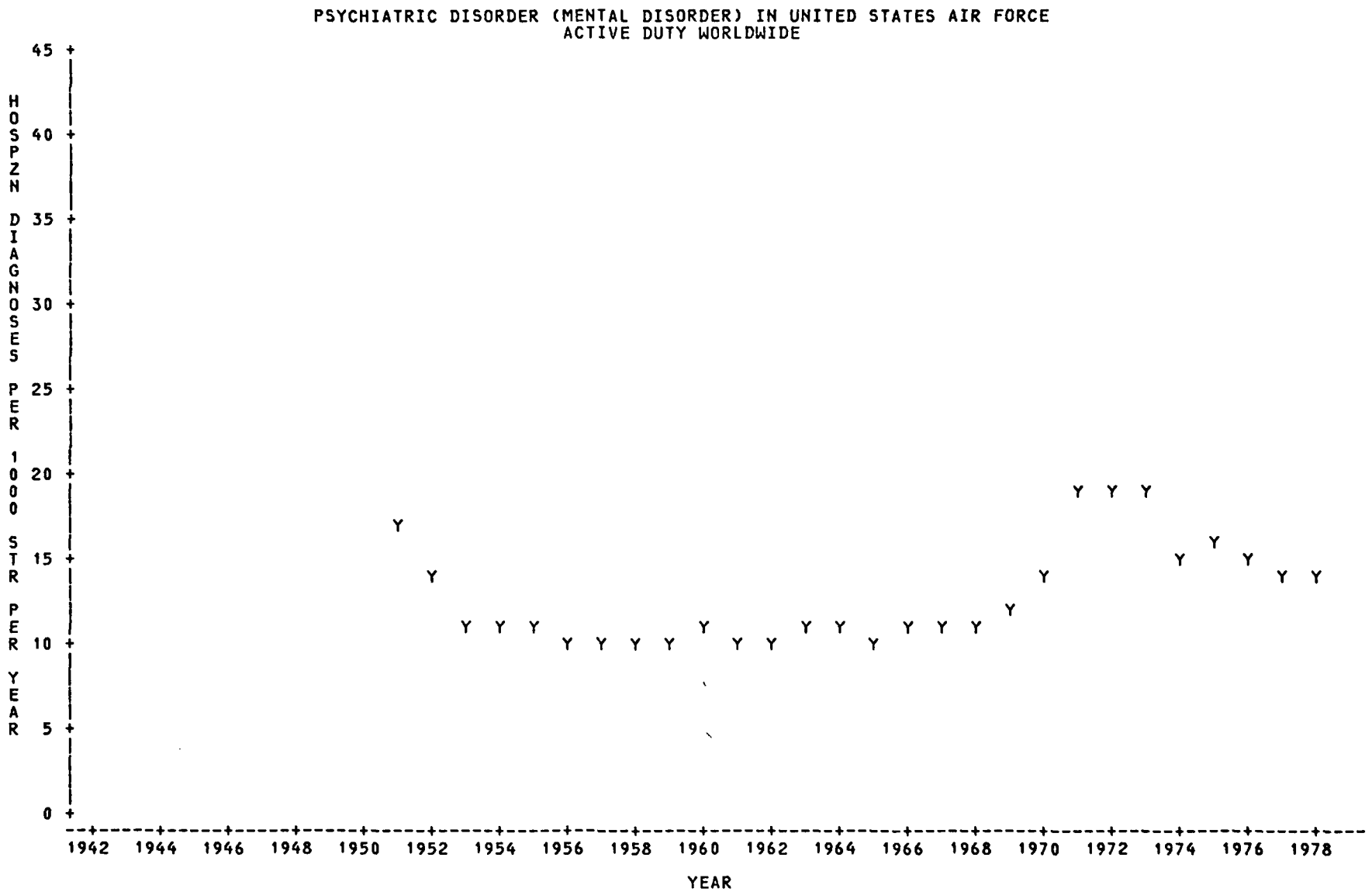
FIG. 21. ZMDMALWW, ZMDFEMWW

PSYCHIATRIC DISORDER (MENTAL DISORDER) IN UNITED STATES ARMY
ACTIVE DUTY WORLDWIDE



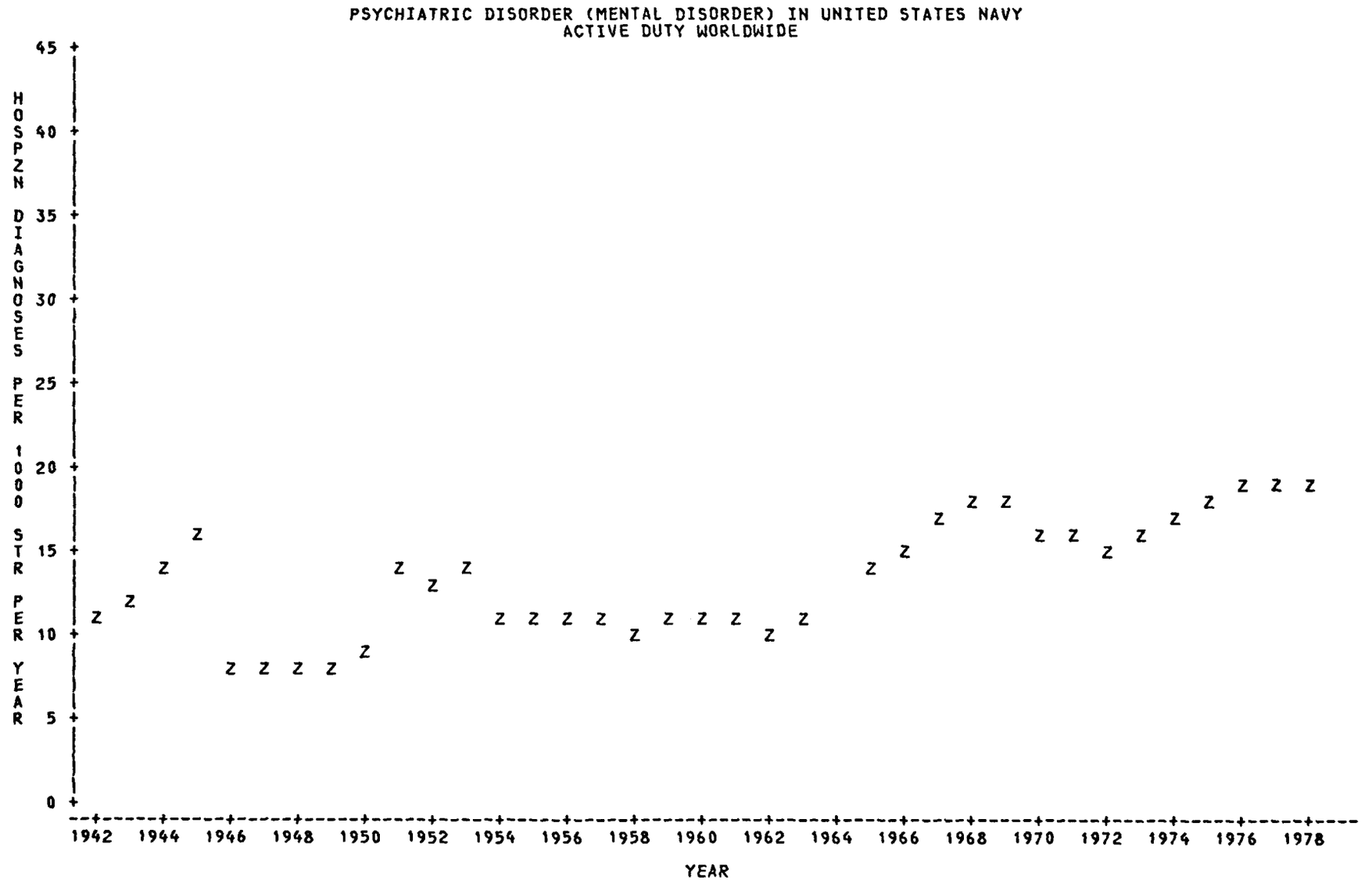
NOTE: 5 OBS HAD MISSING VALUES

FIG. 22. XMDADWW



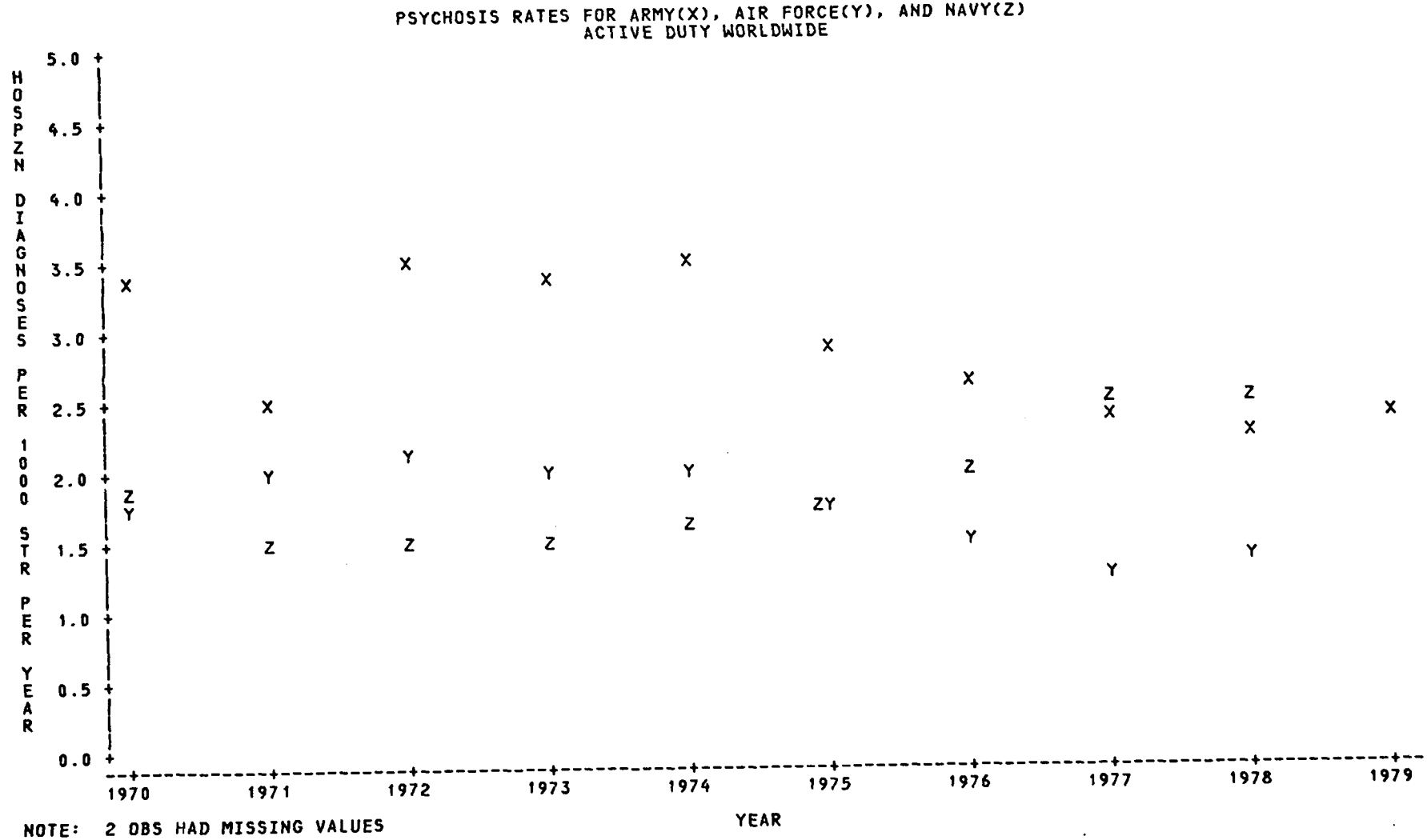
NOTE: 10 OBS HAD MISSING VALUES

FIG. 23. YMDADWW



NOTE: 2 OBS HAD MISSING VALUES

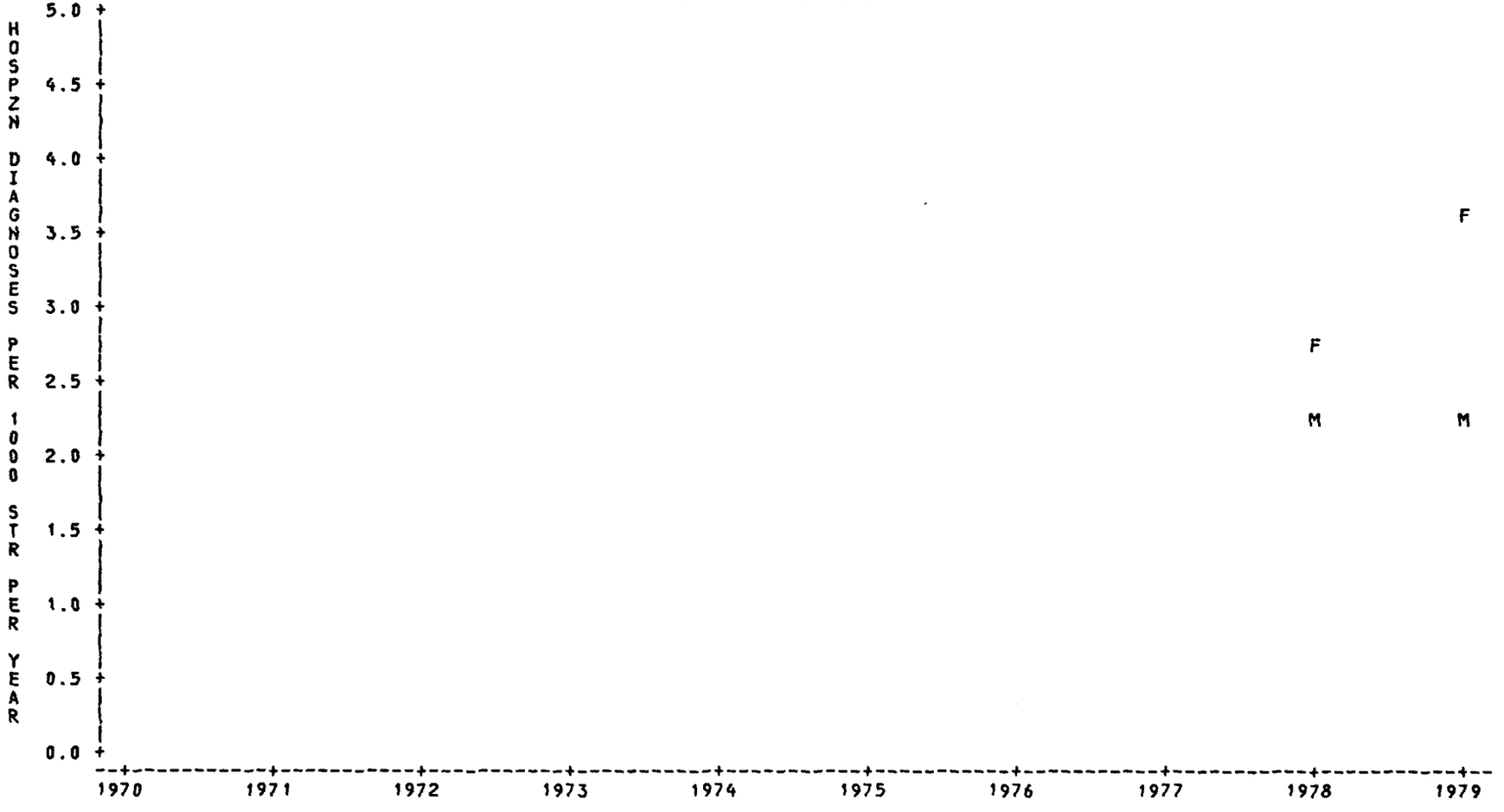
FIG. 24. ZMDADWW



NOTE: 2 OBS HAD MISSING VALUES

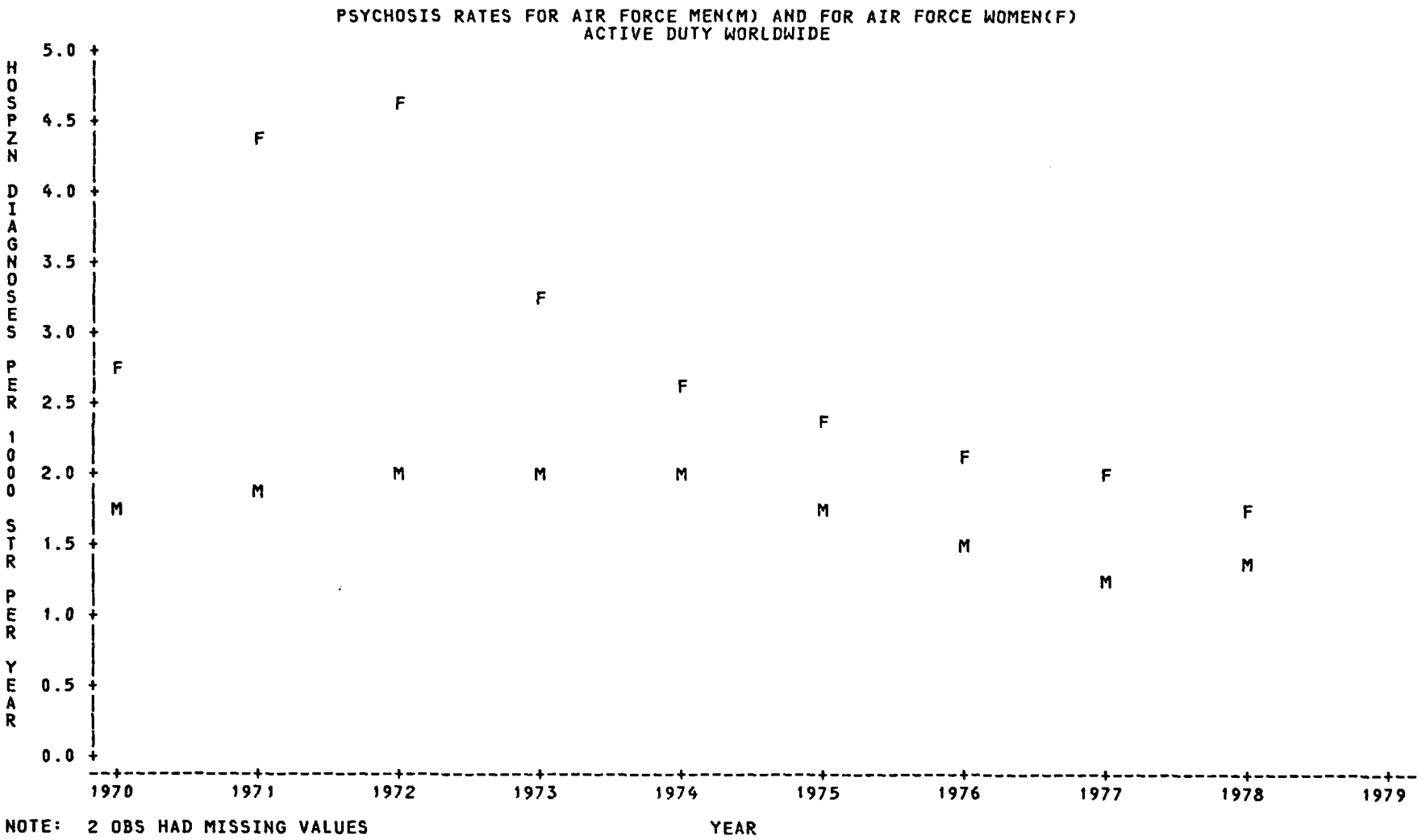
FIG. 25. XPSADWW, YPSADWW, ZPSADWW

PSYCHOSIS RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F)
ACTIVE DUTY WORLDWIDE



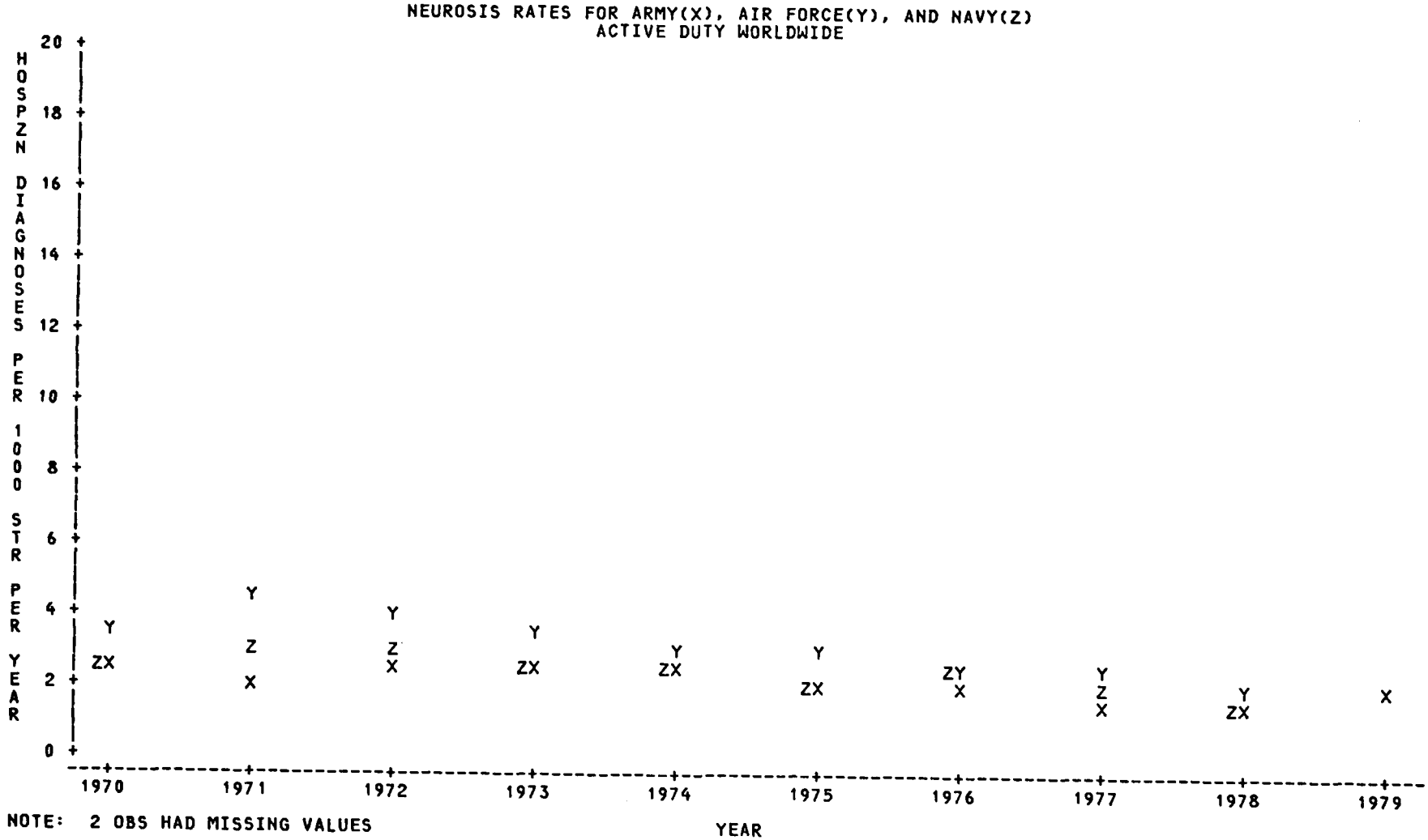
NOTE: 16 OBS HAD MISSING VALUES

FIG. 26. XPSMALWW, XPSFEMWW



NOTE: 2 OBS HAD MISSING VALUES

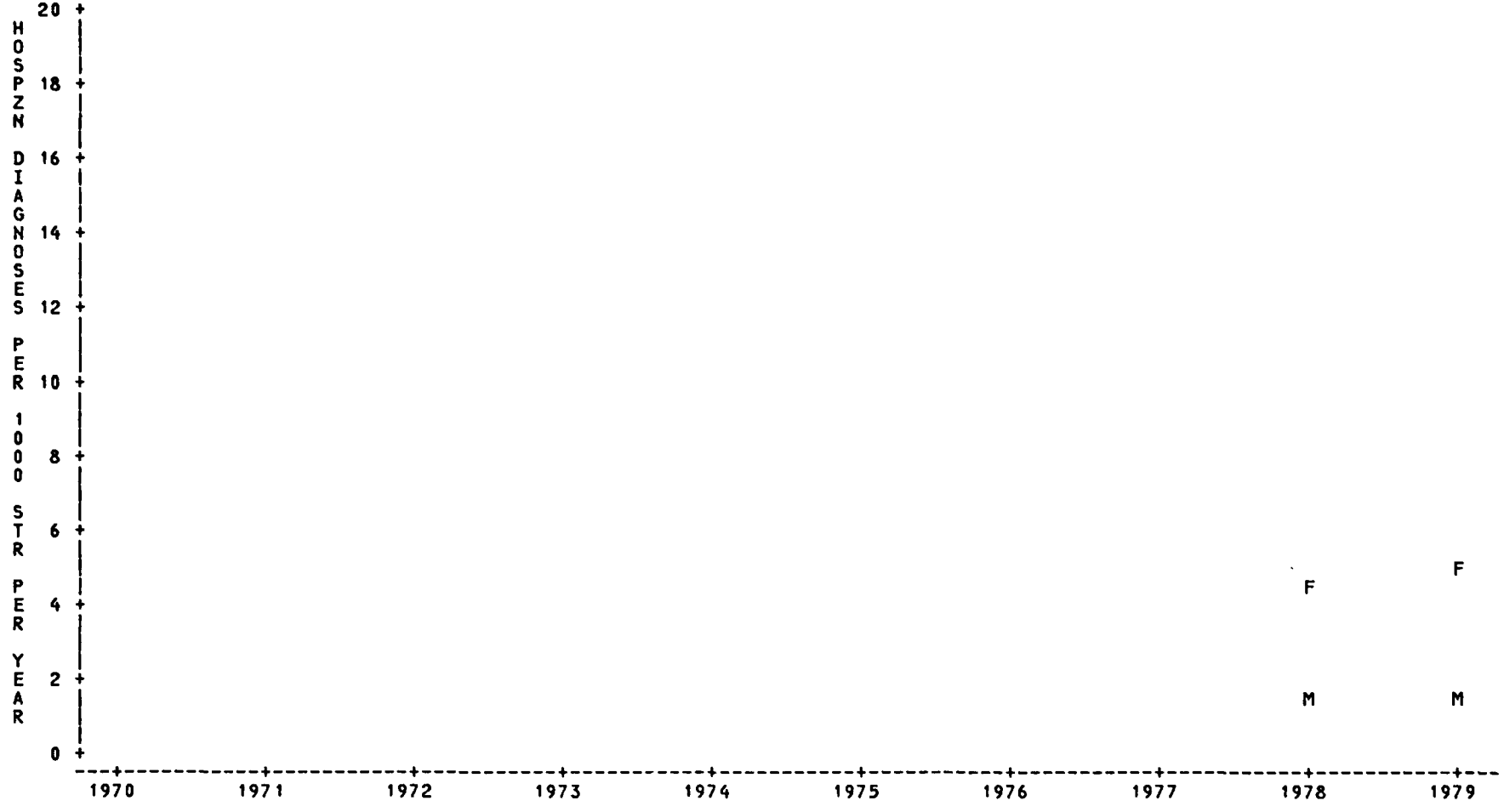
FIG. 27. YPSMALWW, YPSFEMWW



NOTE: 2 OBS HAD MISSING VALUES

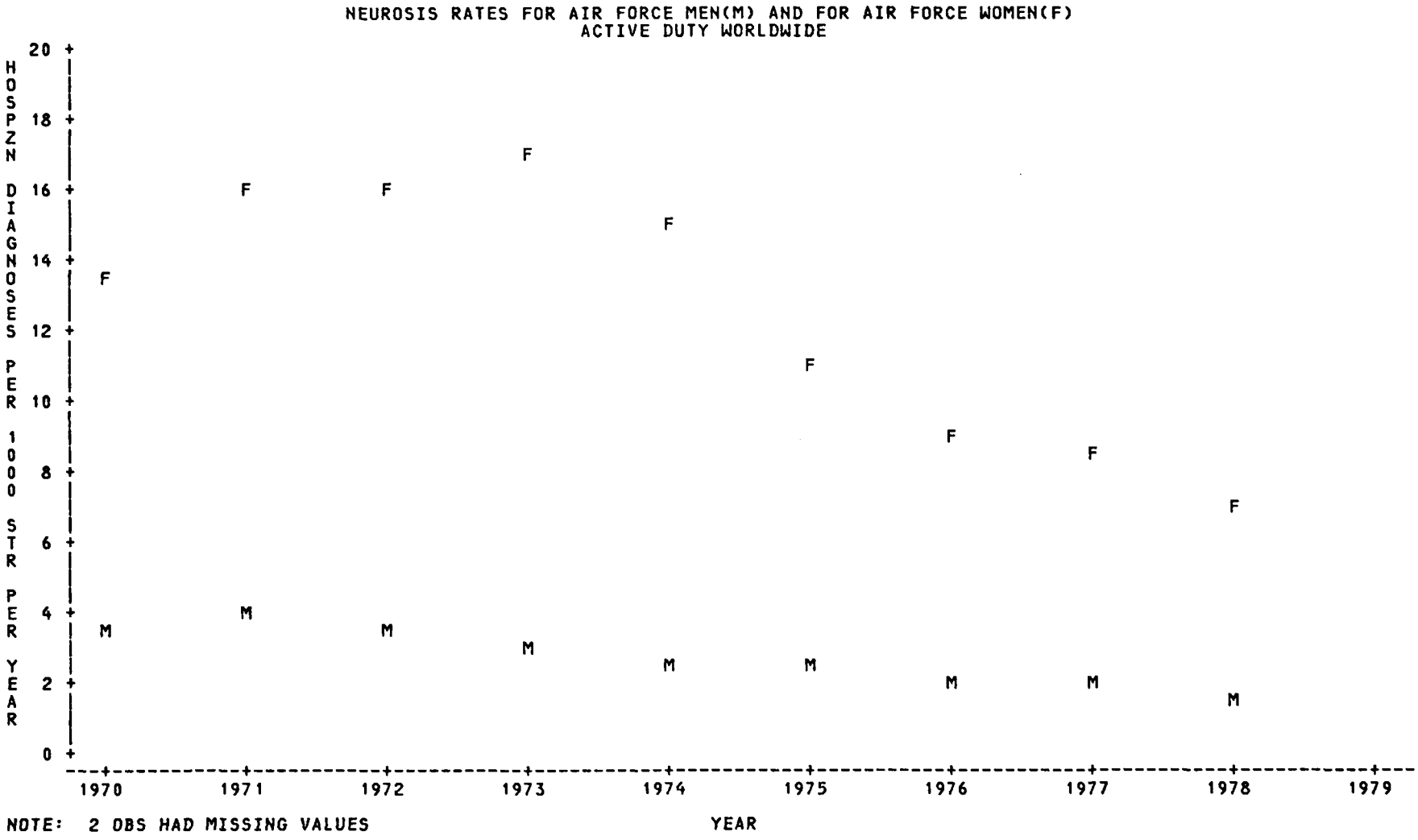
FIG. 28. XNEADWW, YNEADWW, ZNEADWW

NEUROSIS RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F)
ACTIVE DUTY WORLDWIDE



NOTE: 16 OBS HAD MISSING VALUES

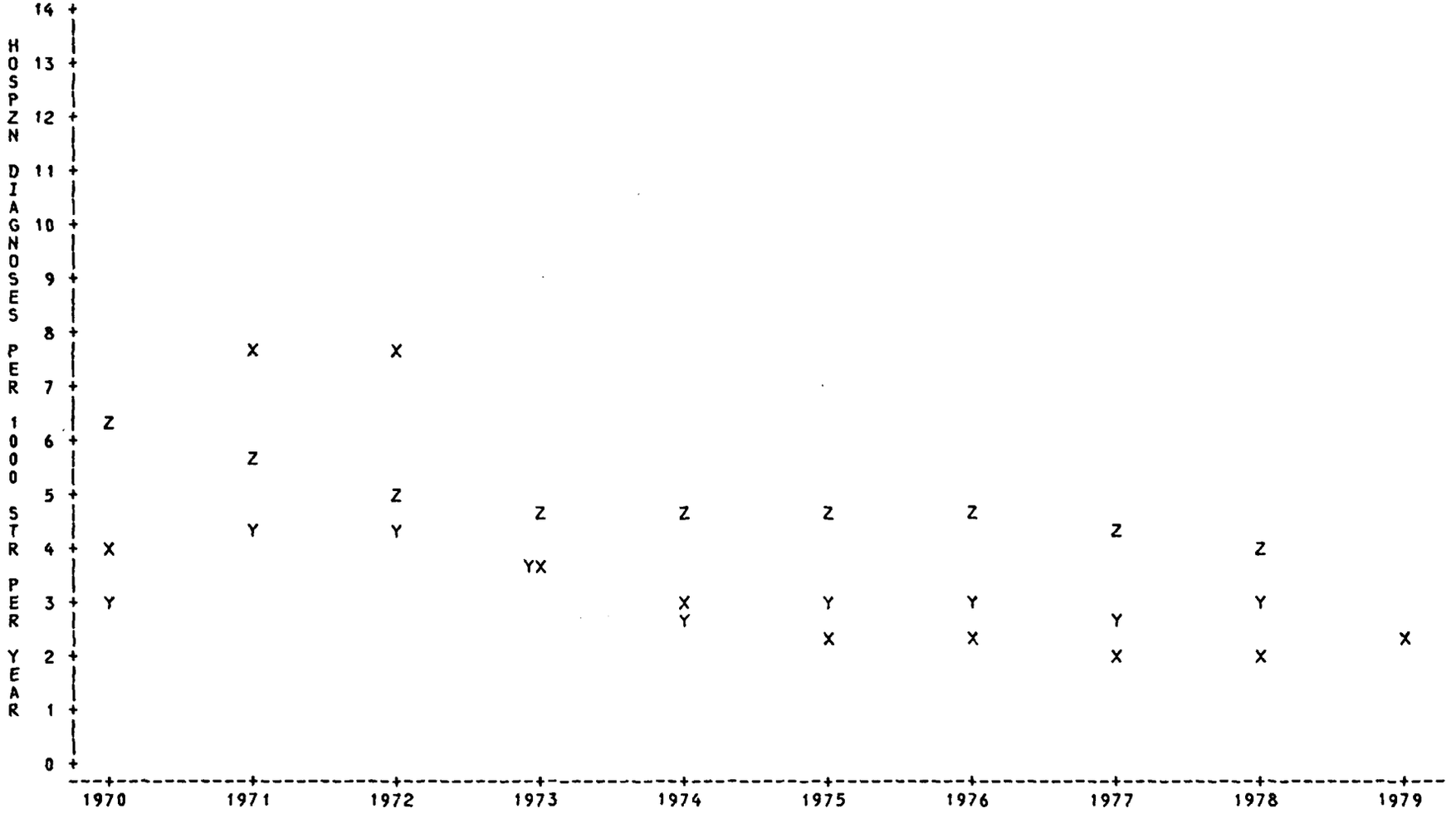
FIG. 29. XNEMALWW, XNEFEMWW



NOTE: 2 OBS HAD MISSING VALUES

FIG. 30. YNEMALWW, YNEFEMWW

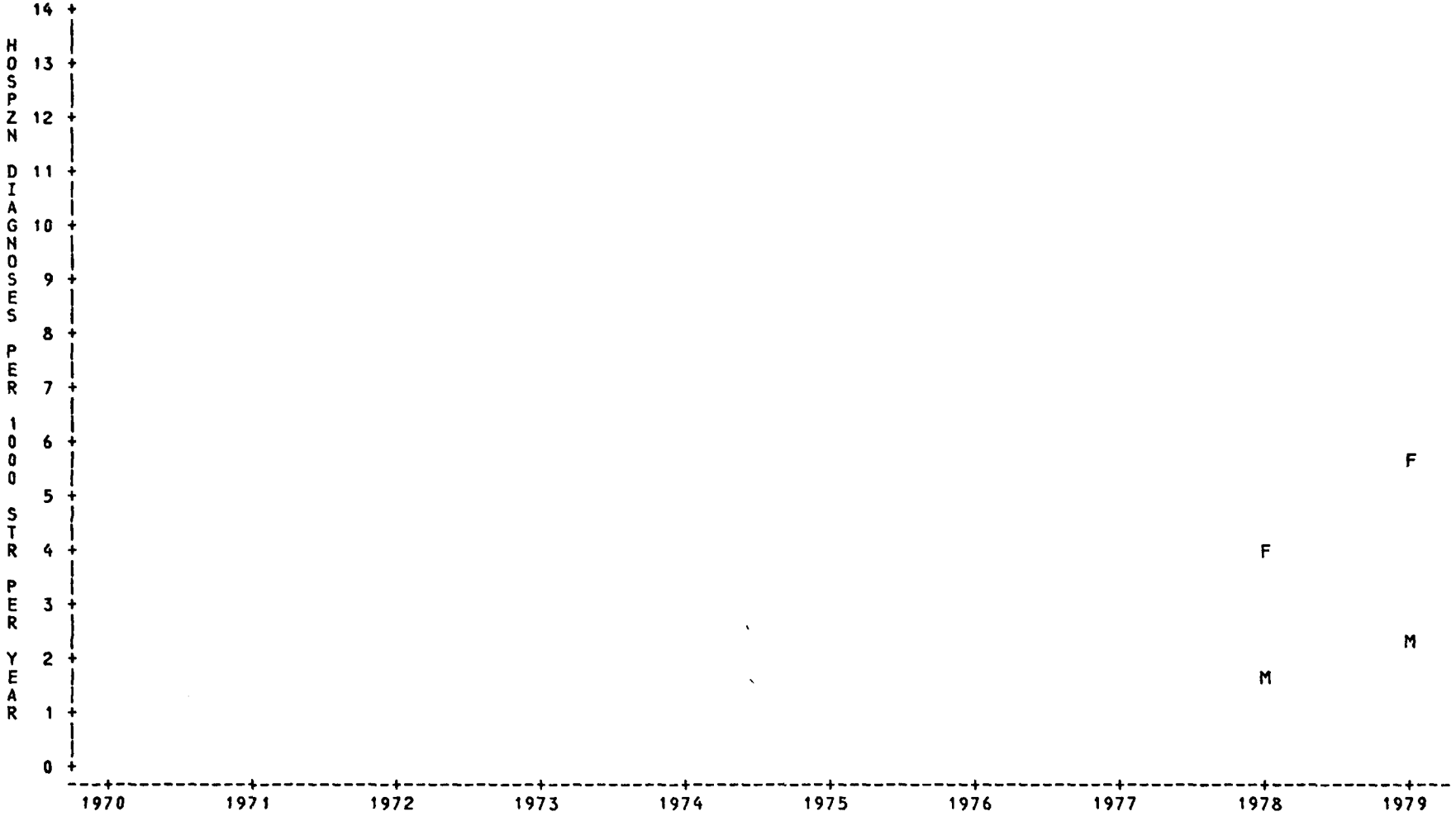
PERSONALITY DISORDER RATES FOR ARMY(X), AIR FORCE(Y), AND NAVY(Z)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

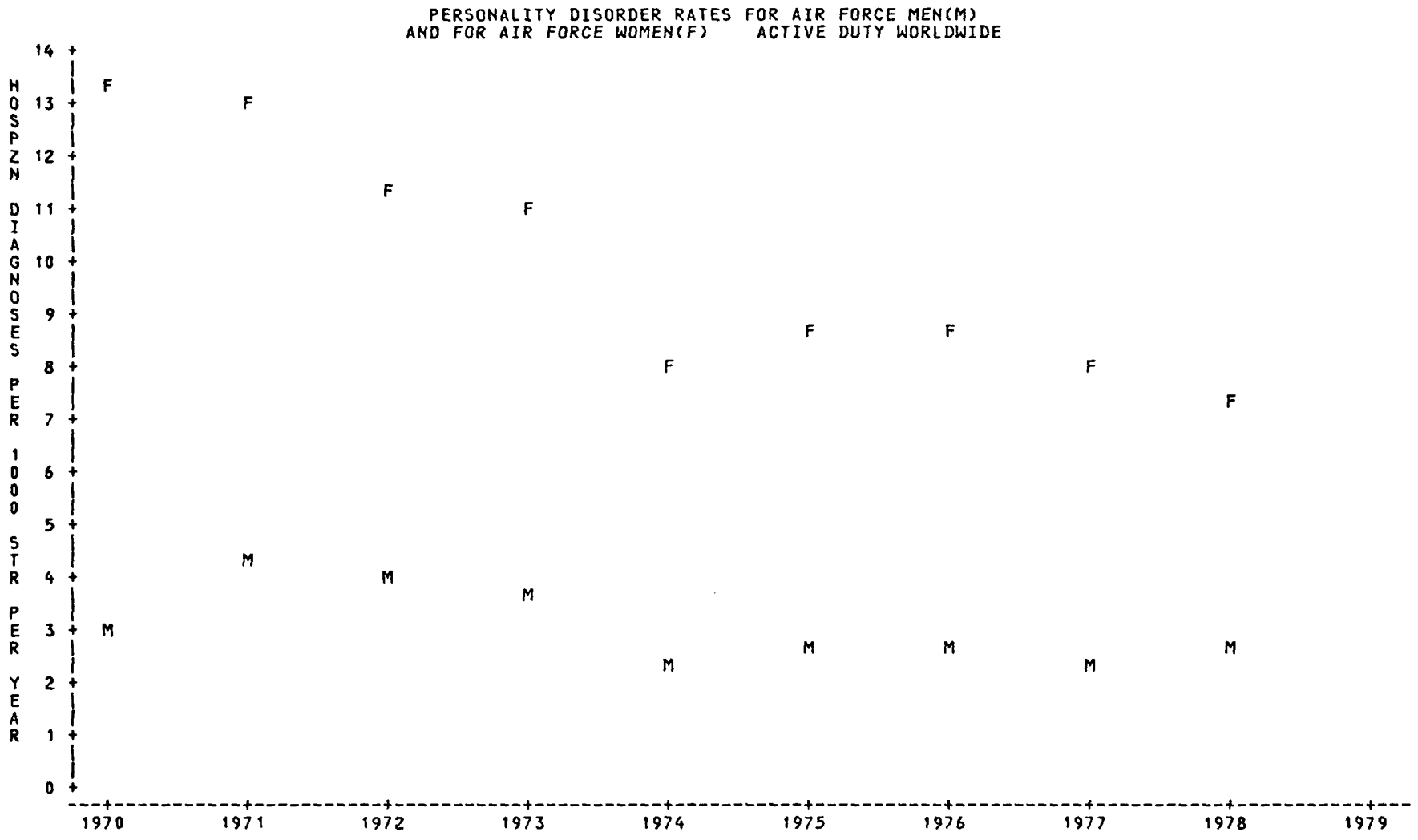
FIG. 31. XPDADWW, YPDADWW, ZPDADWW

PERSONALITY DISORDER RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F)
ACTIVE DUTY WORLDWIDE



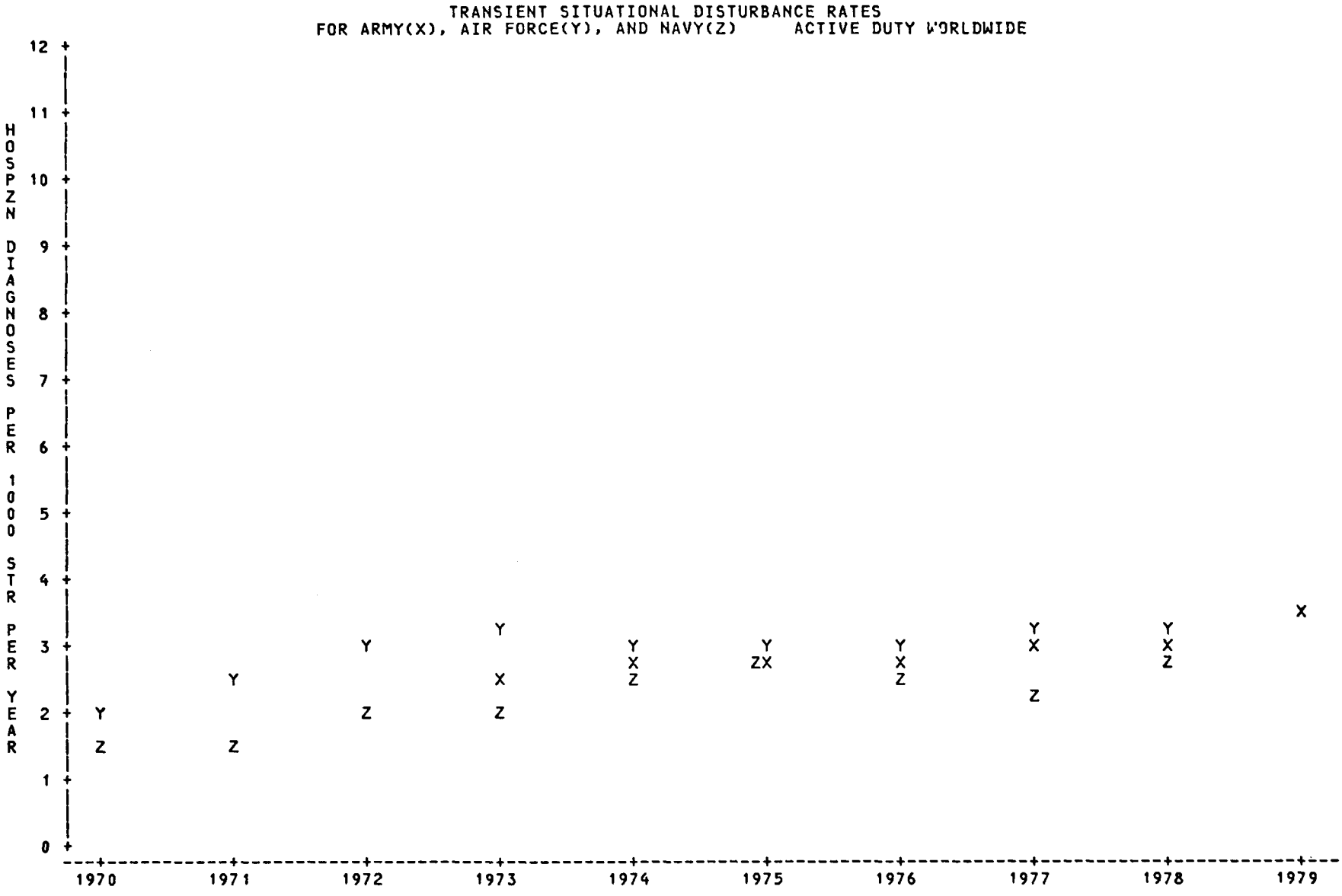
NOTE: 16 OBS HAD MISSING VALUES

FIG. 32. XPDMALWW, XPDFEMWW



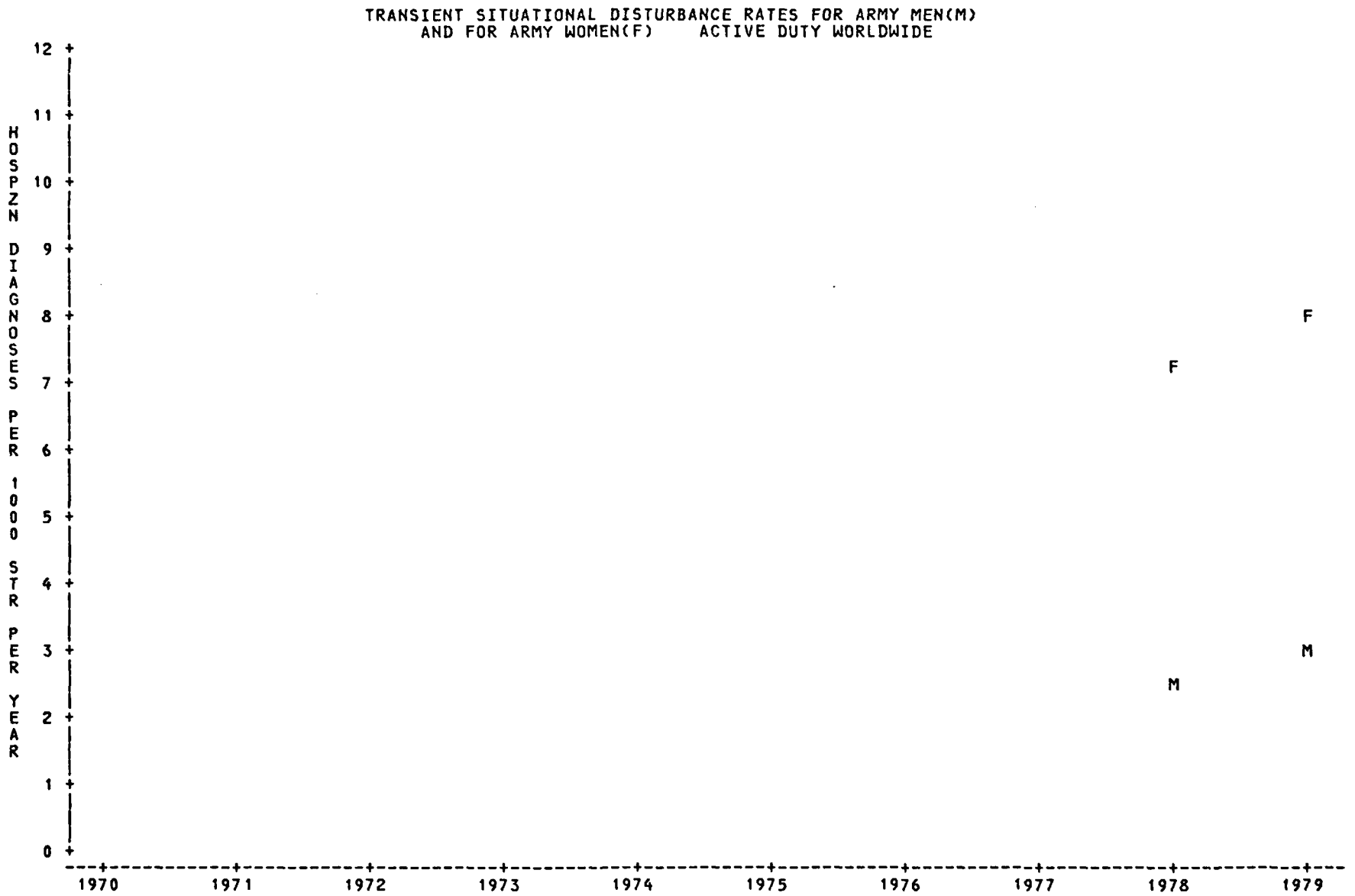
NOTE: 2 OBS HAD MISSING VALUES

FIG. 33. YPDMALWW, YPDFEMWW



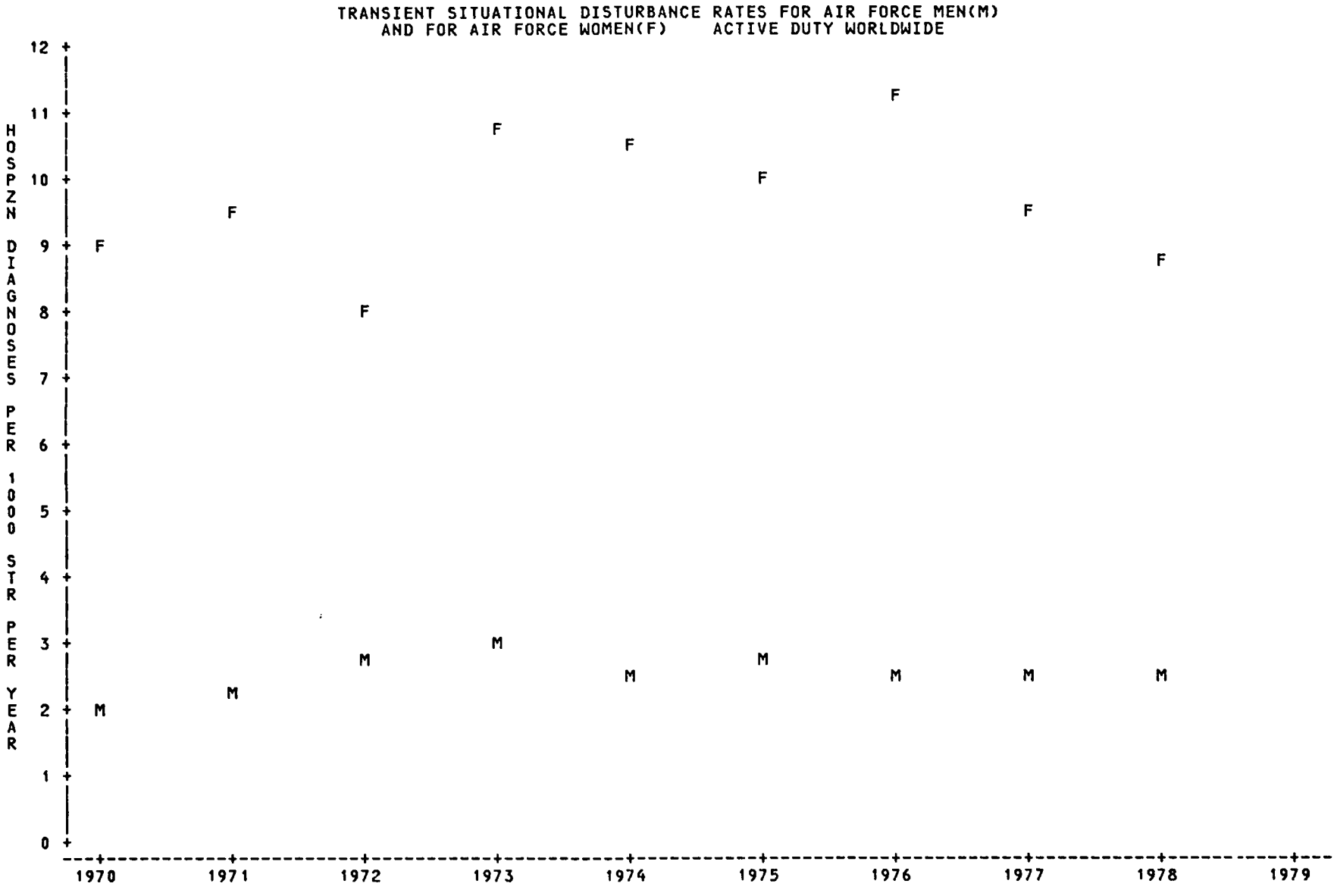
NOTE: 5 OBS HAD MISSING VALUES

FIG. 34. XTRADWW, YTRADWW, ZTRADWW



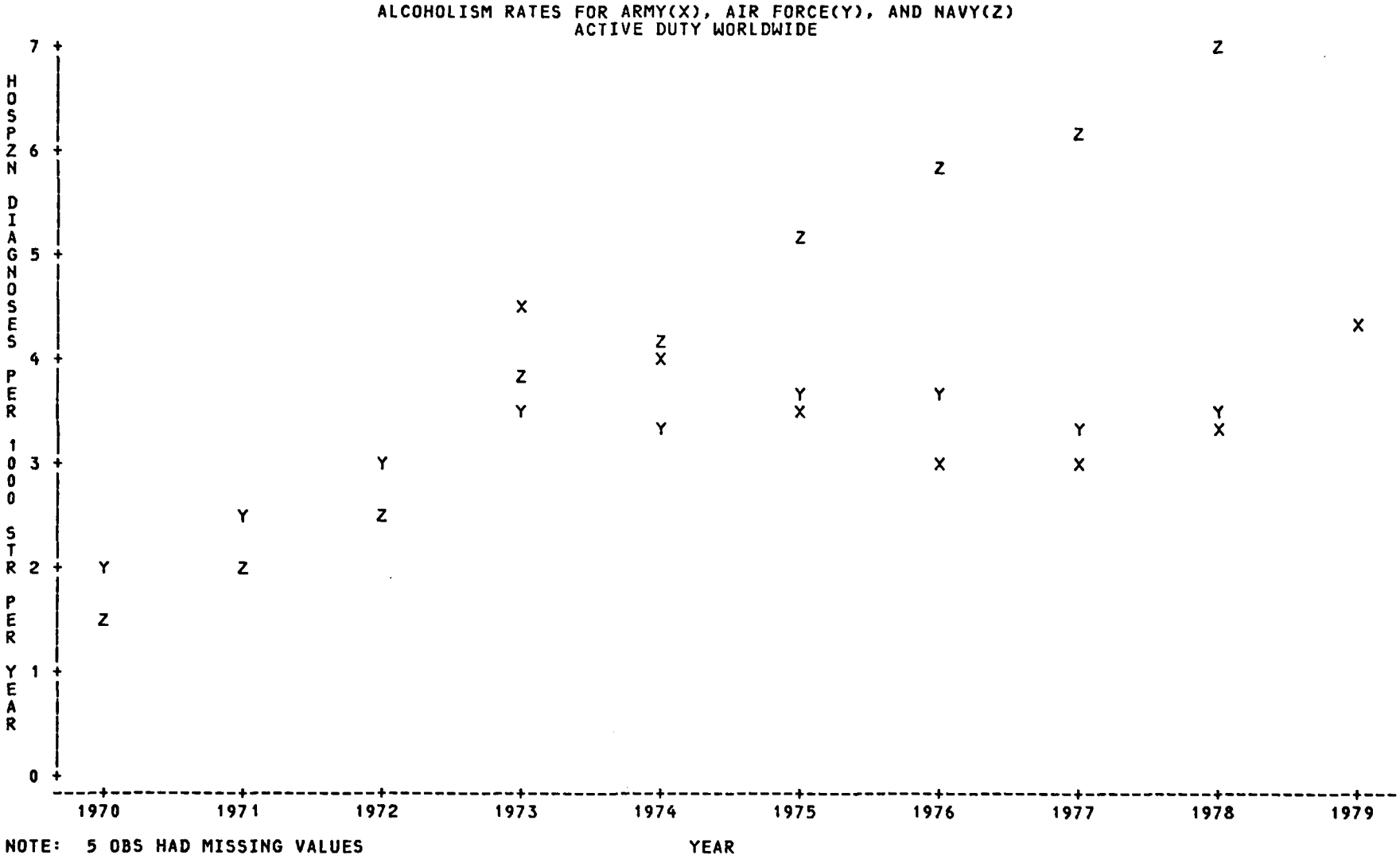
NOTE: 16 OBS HAD MISSING VALUES

FIG. 35. XTRMALWW, XTRFEMWW



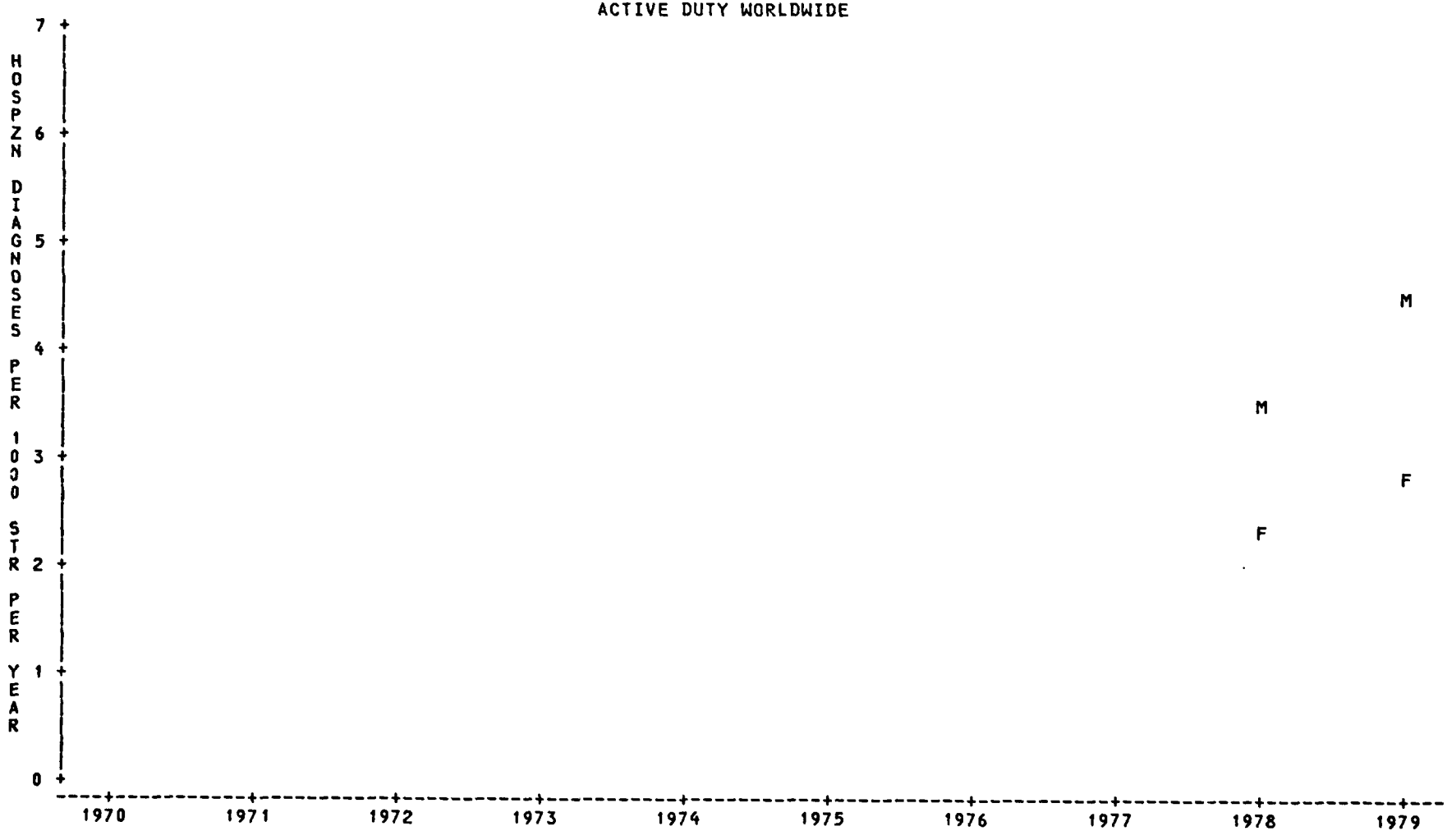
NOTE: 2 OBS HAD MISSING VALUES

FIG. 36. YTRMALWW, YTRFEMWW



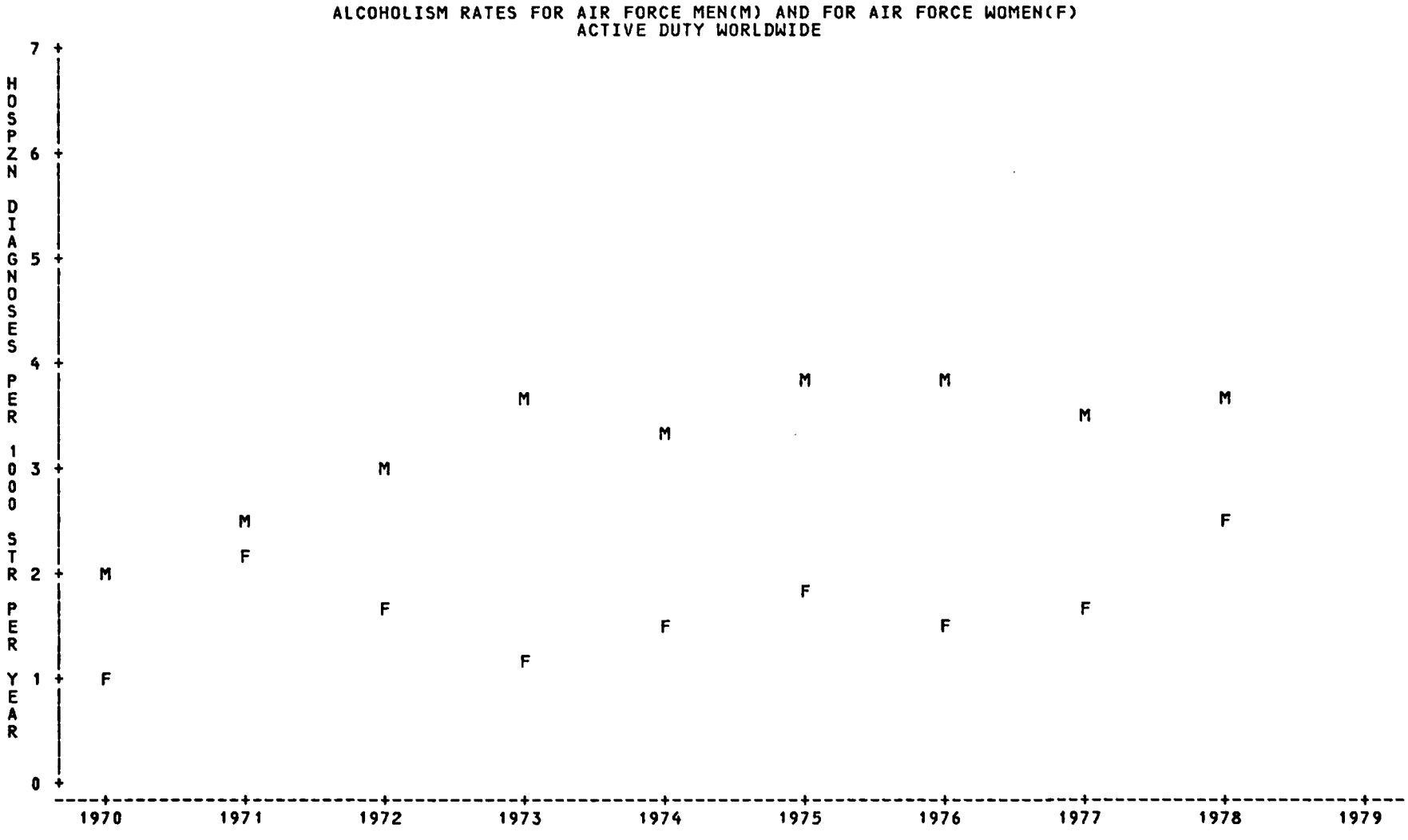
NOTE: 5 OBS HAD MISSING VALUES

FIG. 37. XALADWW, YALADWW, ZALADWW



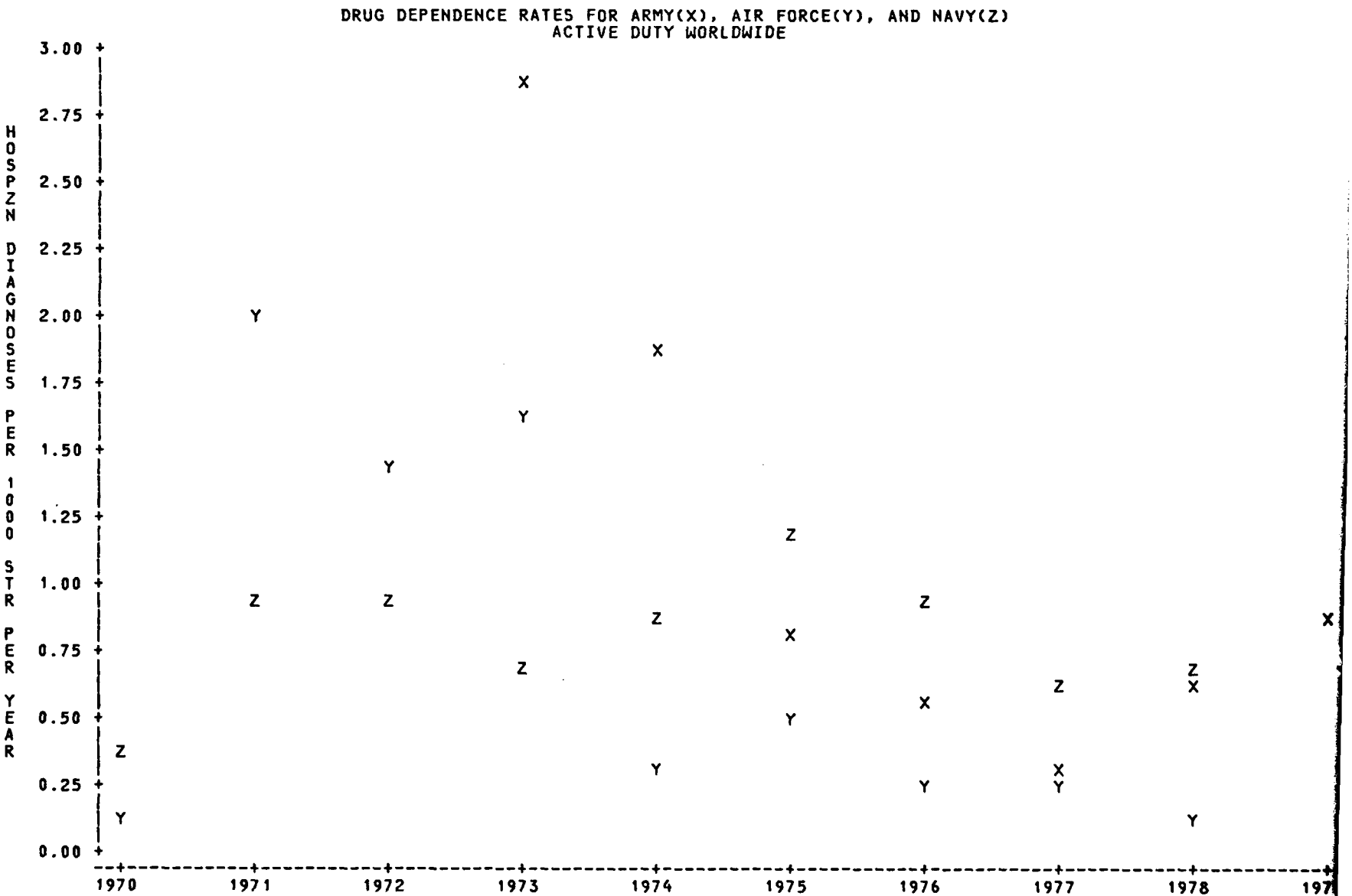
NOTE: 16 OBS HAD MISSING VALUES

FIG. 38. XALMALWW, XALFEMWW



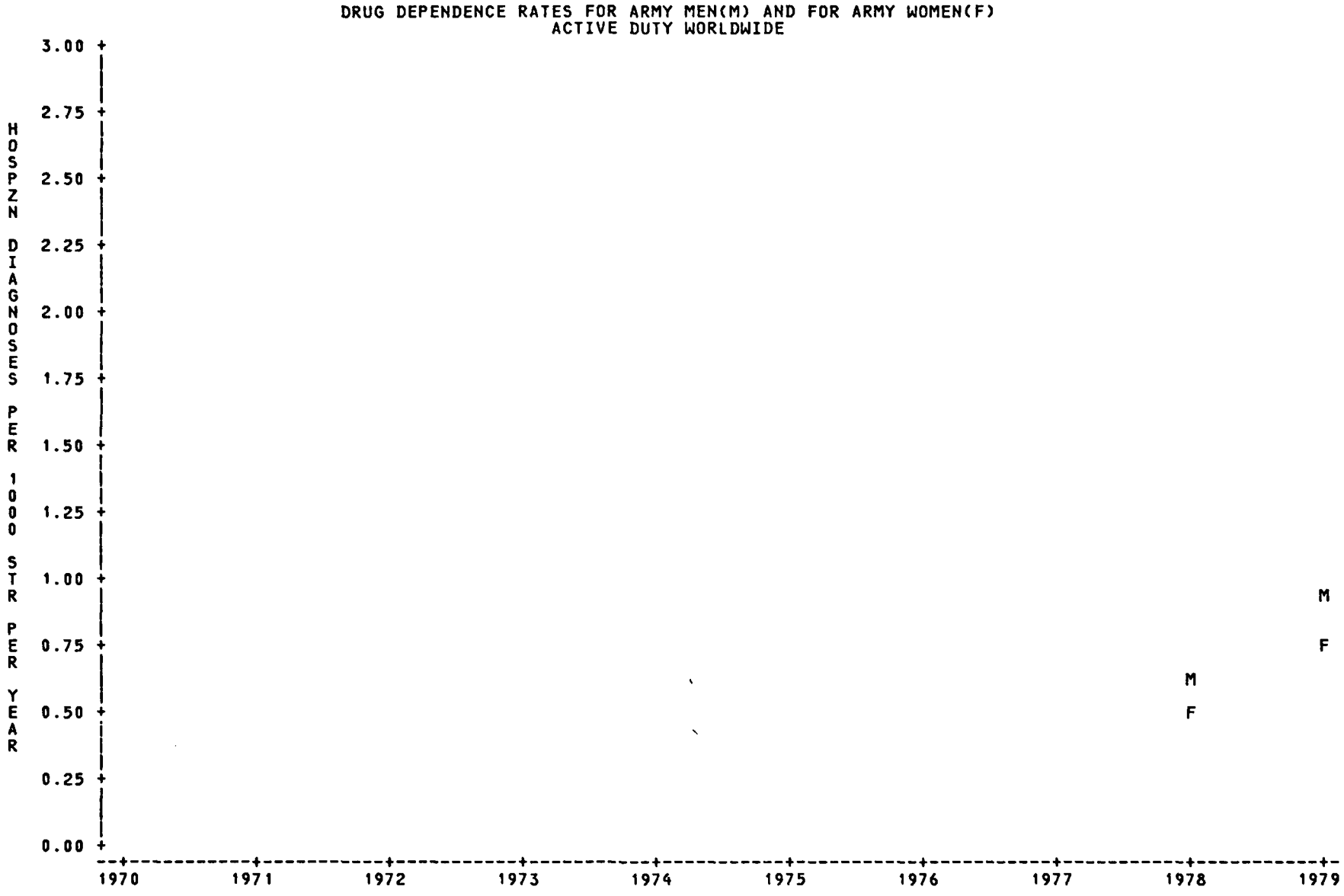
NOTE: 2 OBS HAD MISSING VALUES

FIG. 39. YALMALWW, YALFEMWW



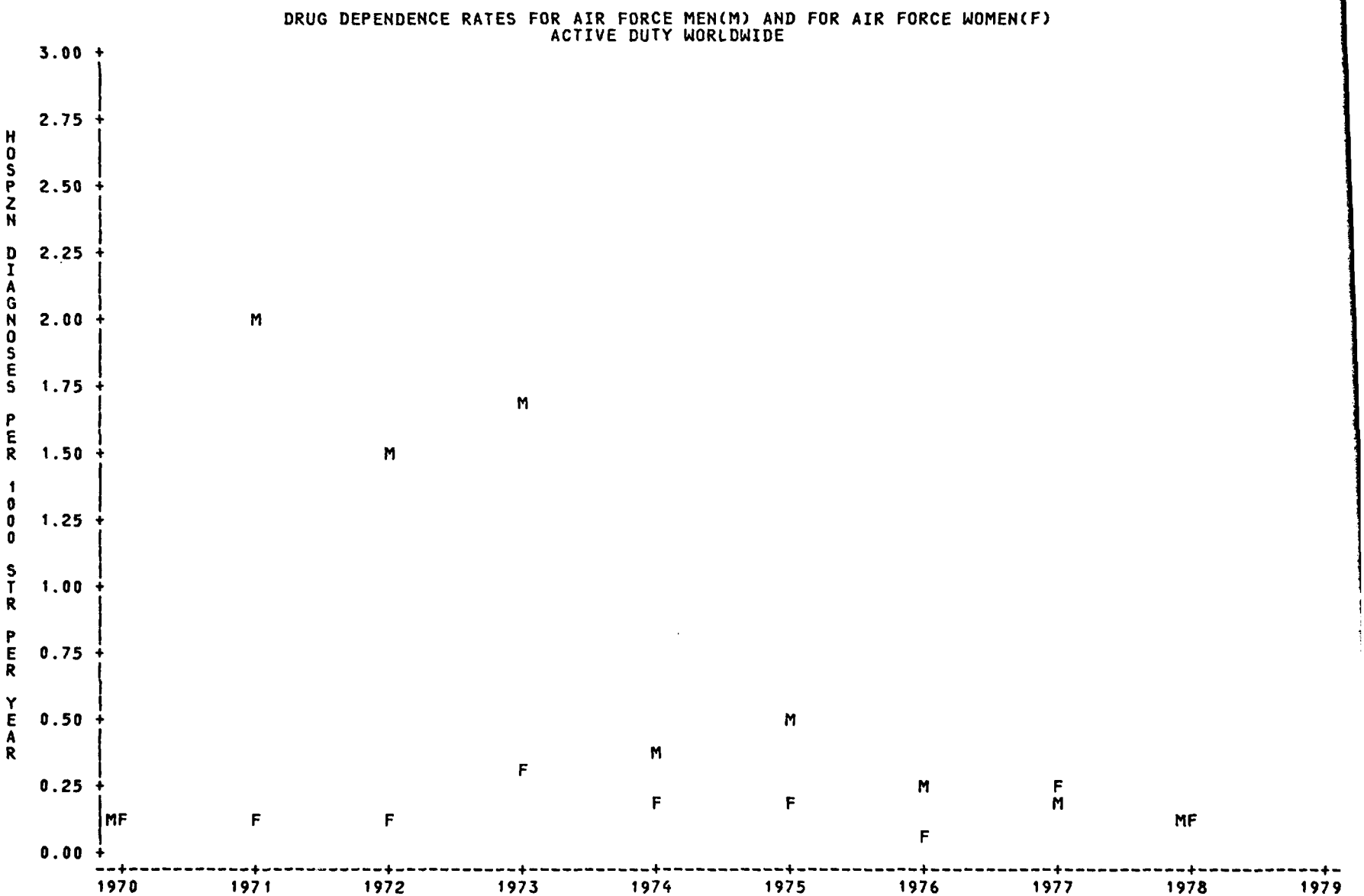
NOTE: 5 OBS HAD MISSING VALUES

FIG. 40. XDRADWW, YDRADWW, ZDRADWW



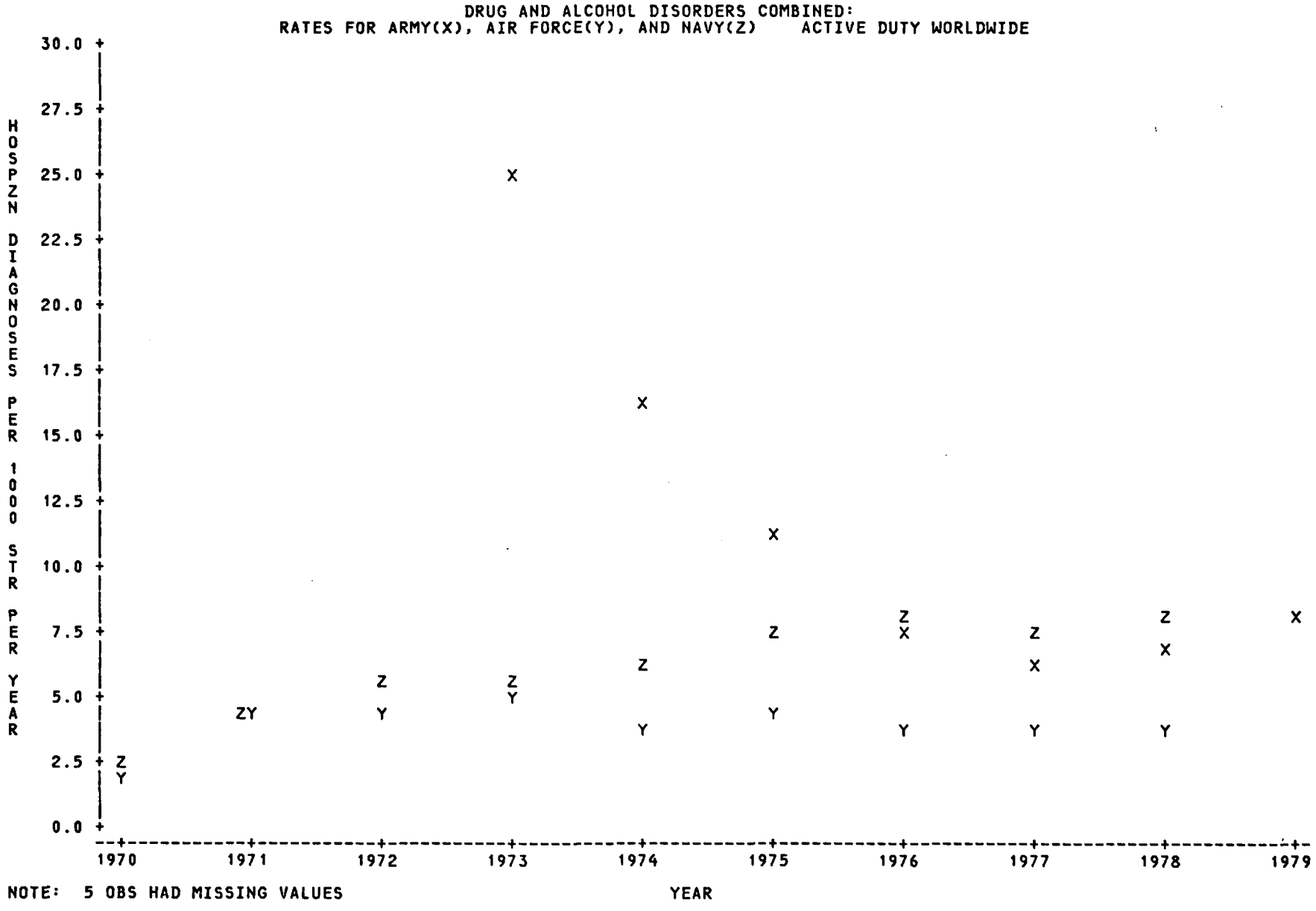
NOTE: 16 OBS HAD MISSING VALUES

FIG. 41. XDRMALWW, XDRFEMWW



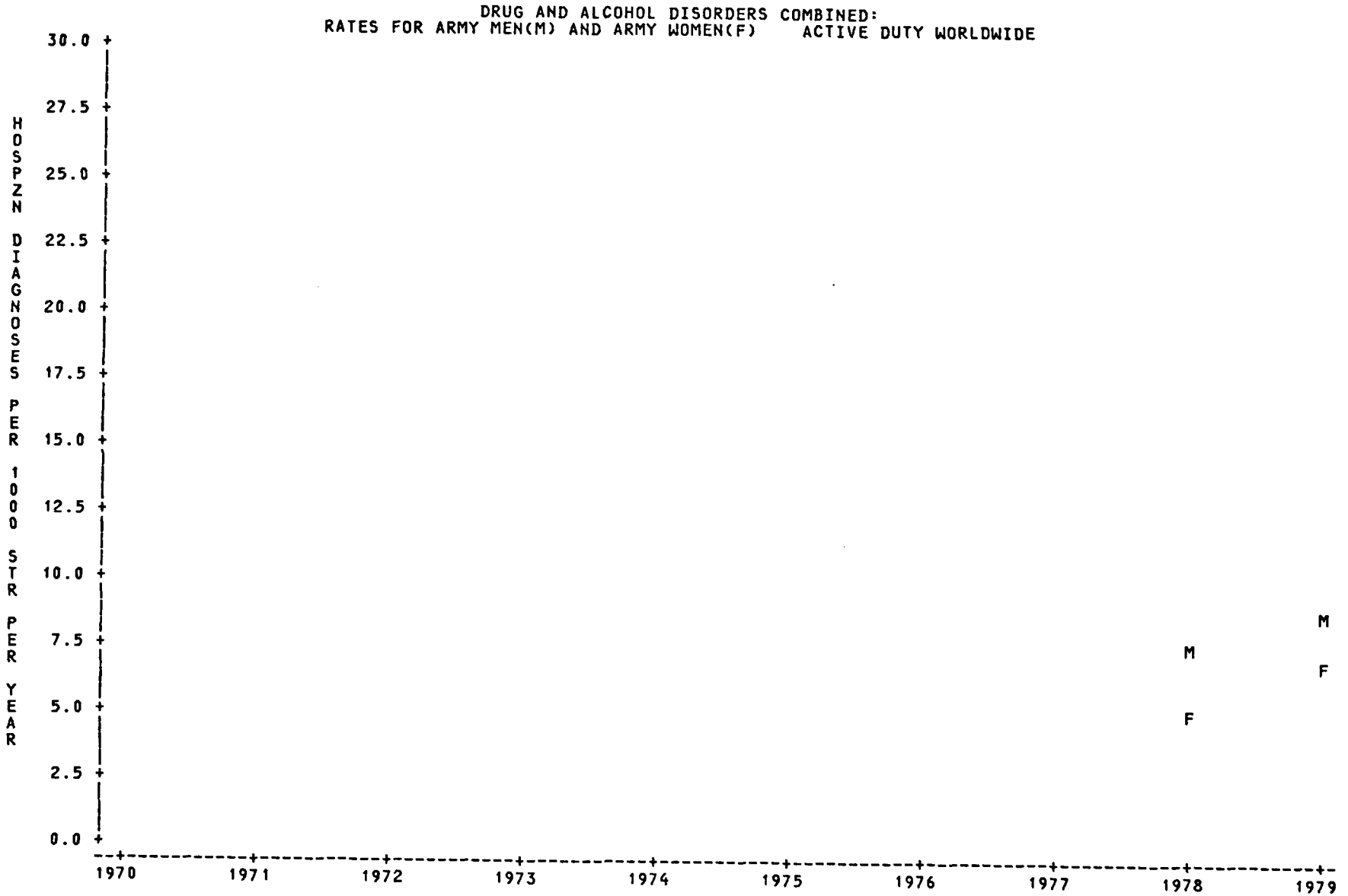
NOTE: 2 OBS HAD MISSING VALUES

FIG. 42. YDRMALWW, YDRFEMWW



NOTE: 5 OBS HAD MISSING VALUES

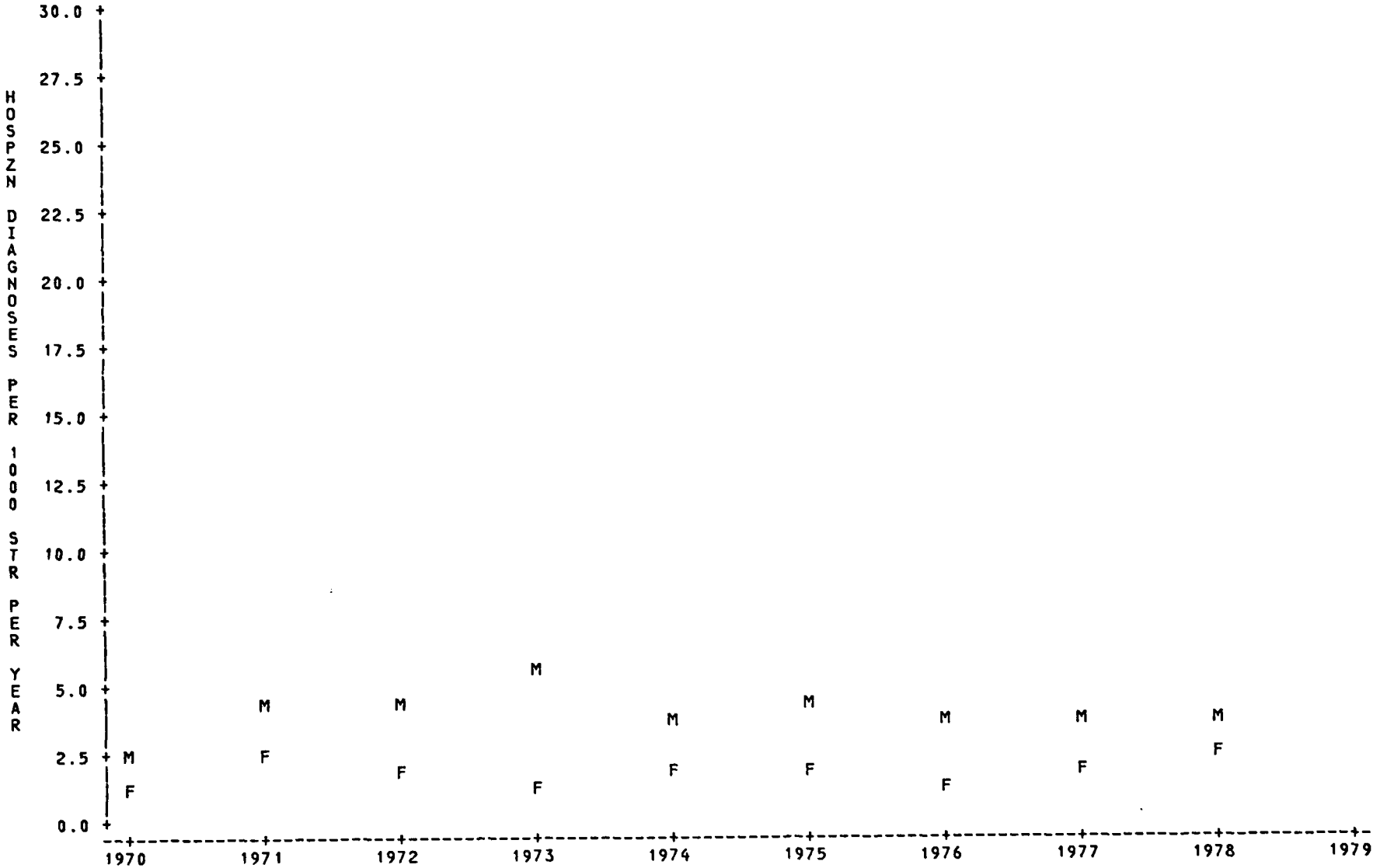
FIG. 43. XDAADWW, YDAADWW, ZDAADWW



NOTE: 16 OBS HAD MISSING VALUES

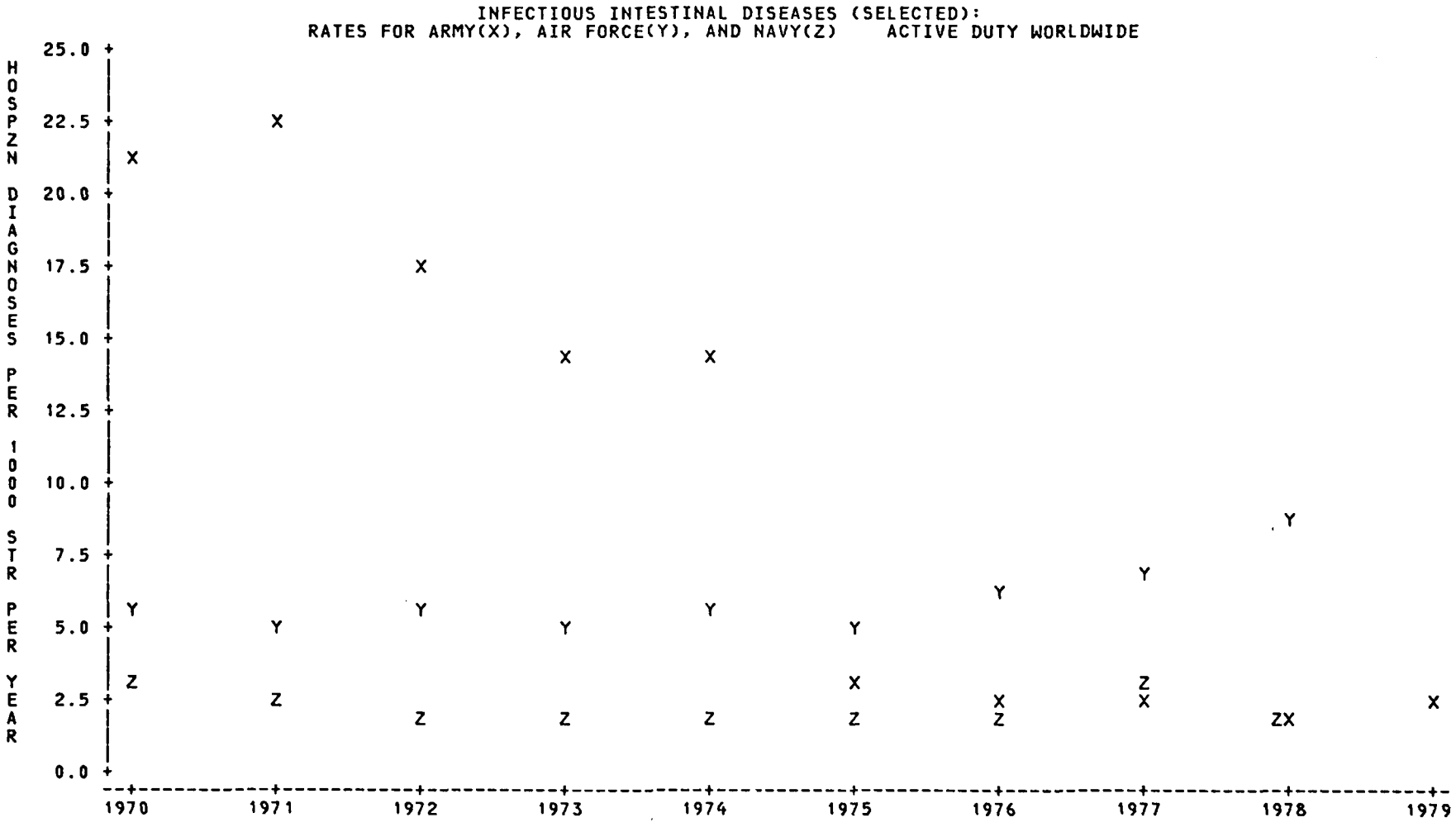
FIG. 44. XDAMALWW, XDAFEMWW

DRUG AND ALCOHOL DISORDERS COMBINED:
RATES FOR AIR FORCE MEN(M) AND AIR FORCE WOMEN(F) ACTIVE DUTY WORLDWIDE



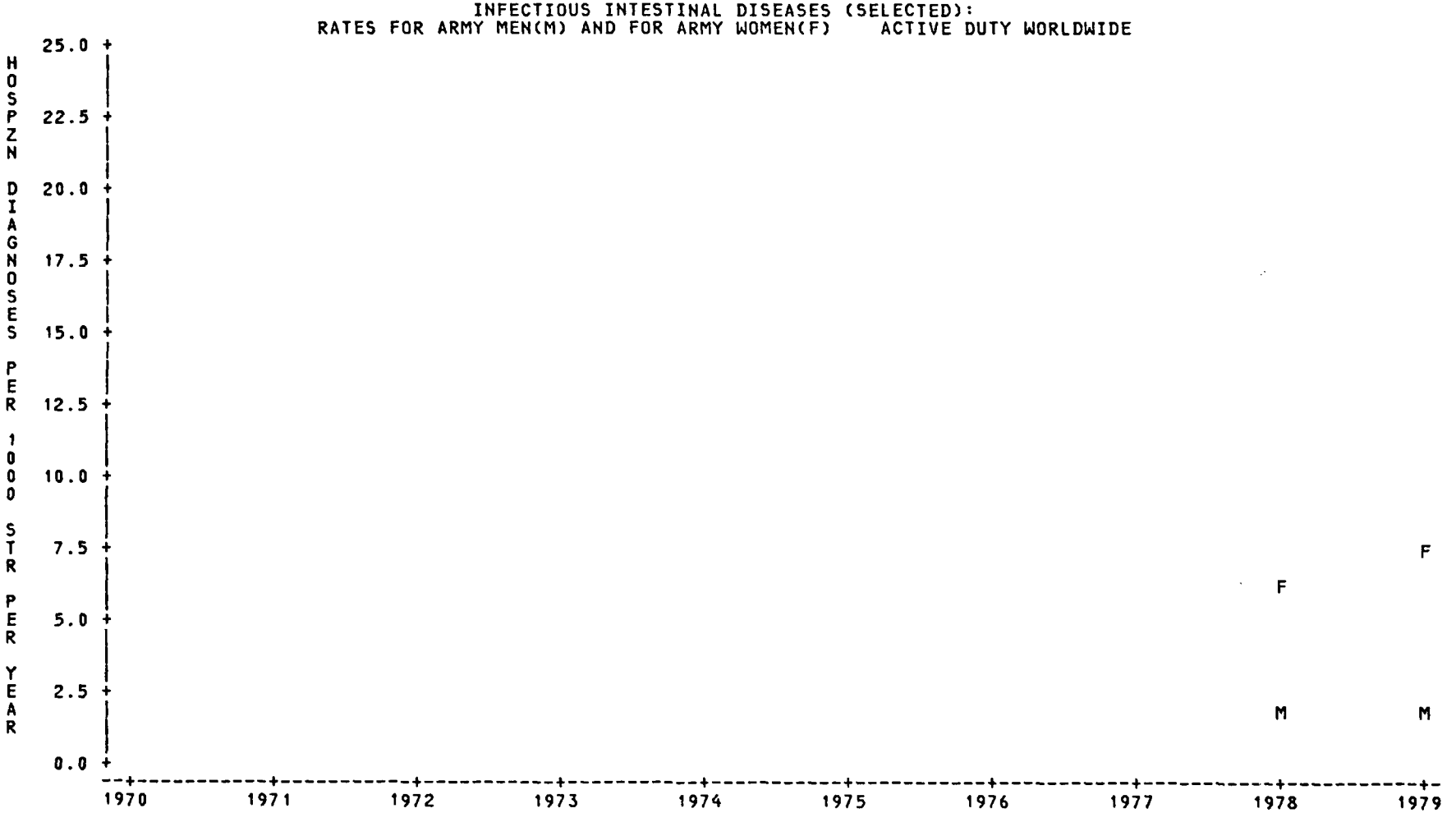
NOTE: 2 OBS HAD MISSING VALUES

FIG. 45. YDAMALWW, YDAFEMWW



NOTE: 2 OBS HAD MISSING VALUES

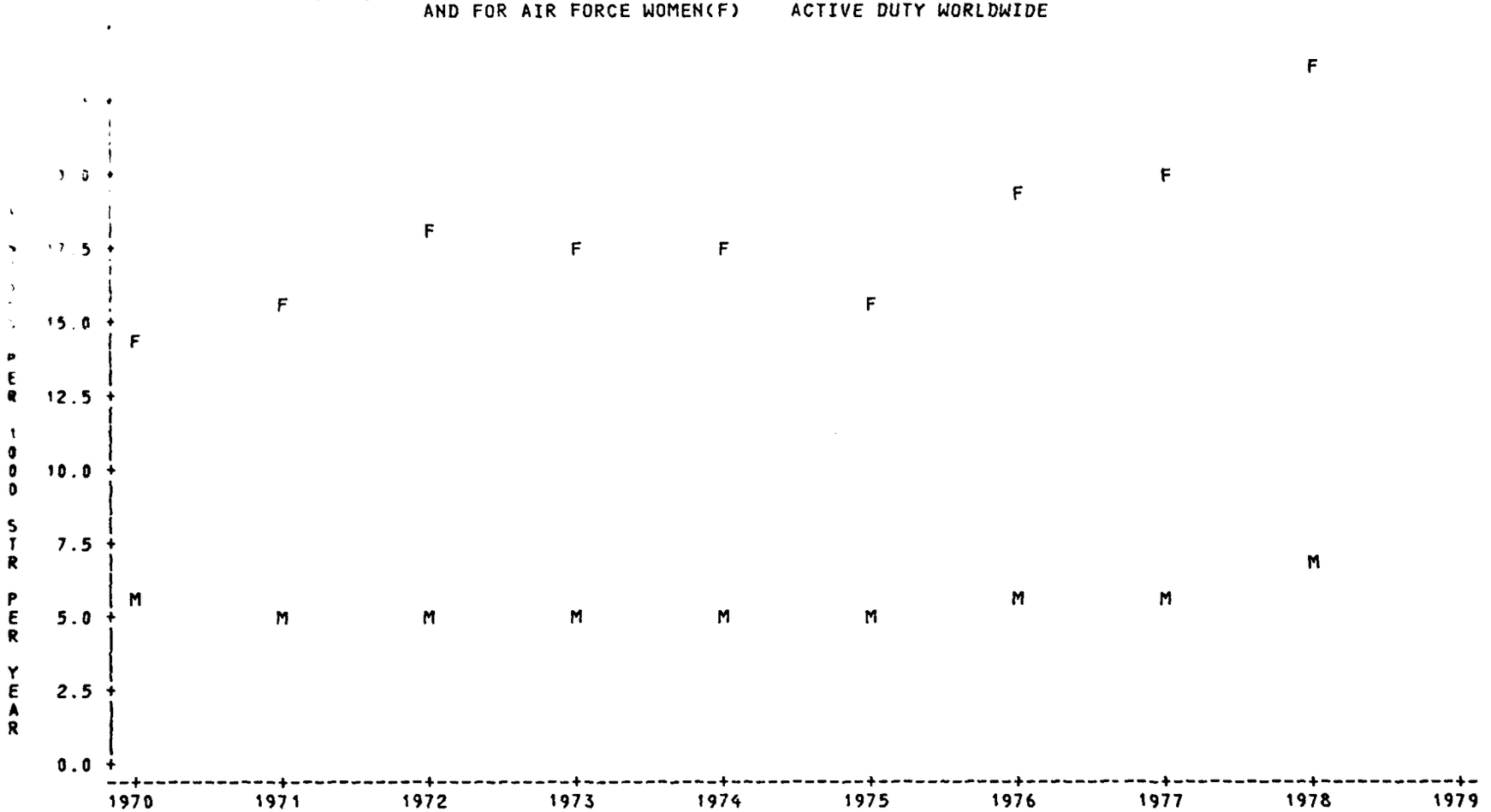
FIG. 46. XGIADWW, YGIADWW, ZGIADWW



NOTE: 16 OBS HAD MISSING VALUES

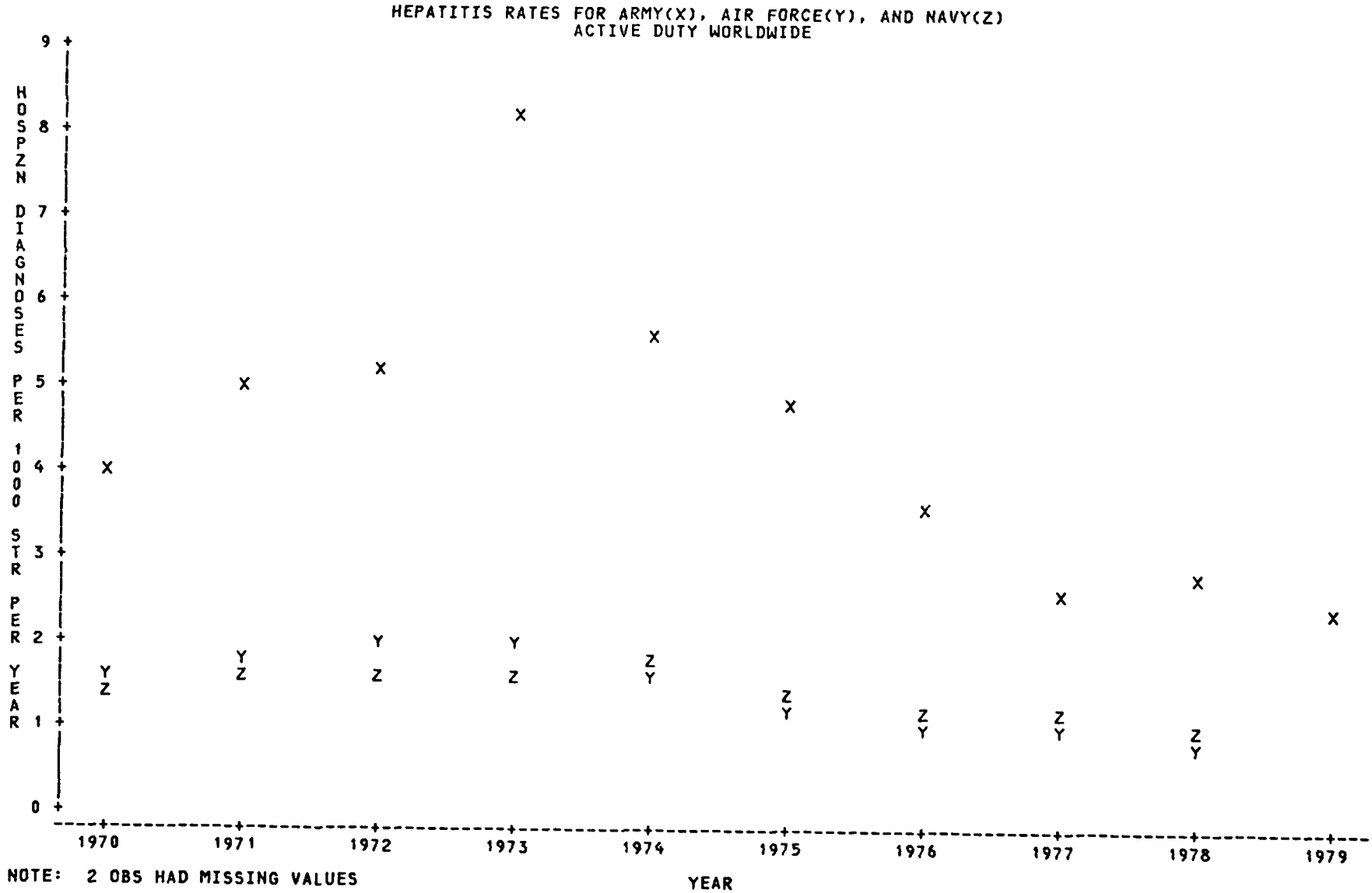
FIG. 47. XGIMALWW, XGIFEMWW

INFECTIOUS INTESTINAL DISEASES (SELECTED): RATES FOR AIR FORCE MEN(M)
AND FOR AIR FORCE WOMEN(F) ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

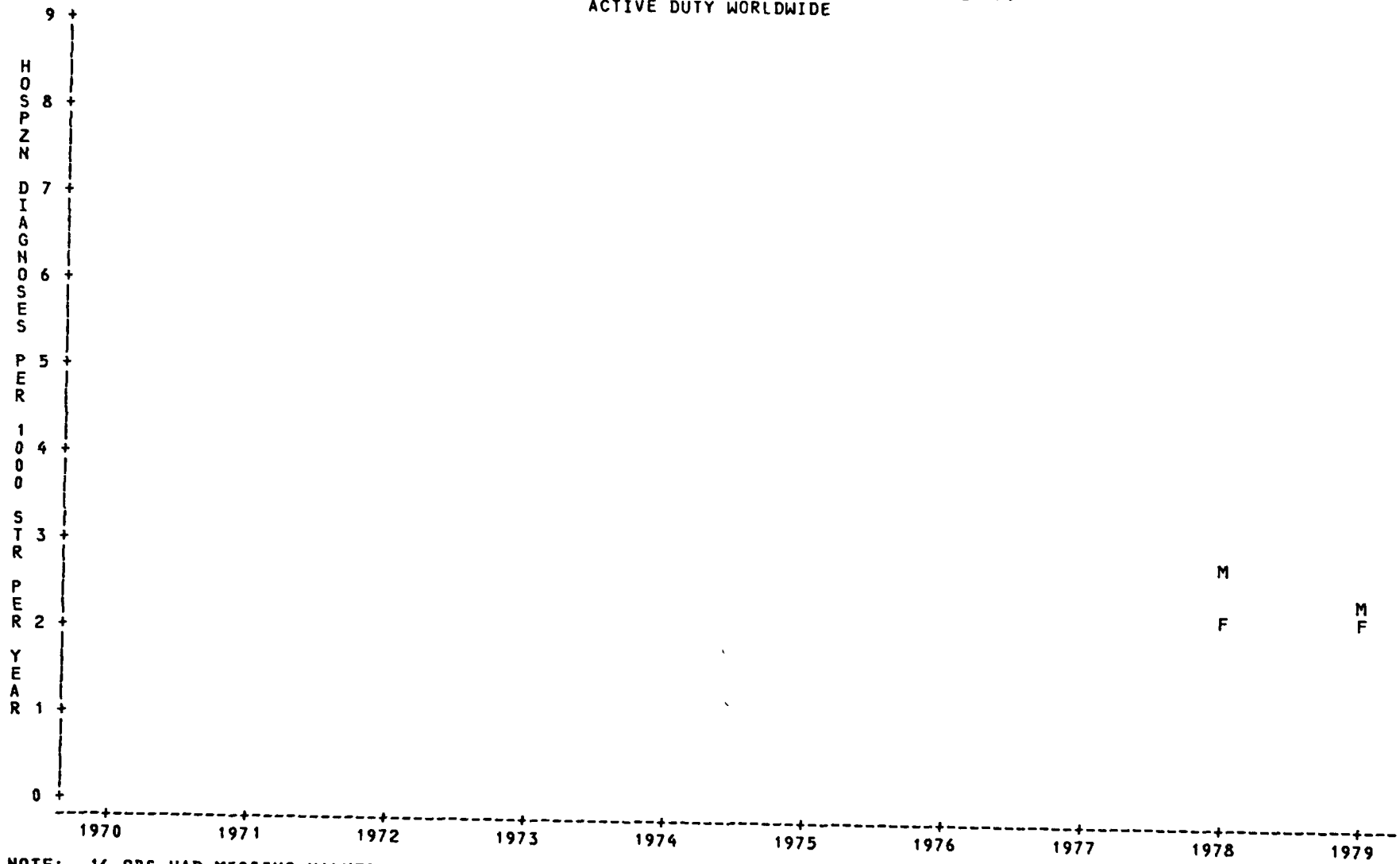
FIG. 48. YGIMALWW, YGIFEMWW



NOTE: 2 OBS HAD MISSING VALUES

FIG. 49. XHEADWW, YHEADWW, ZHEADWW

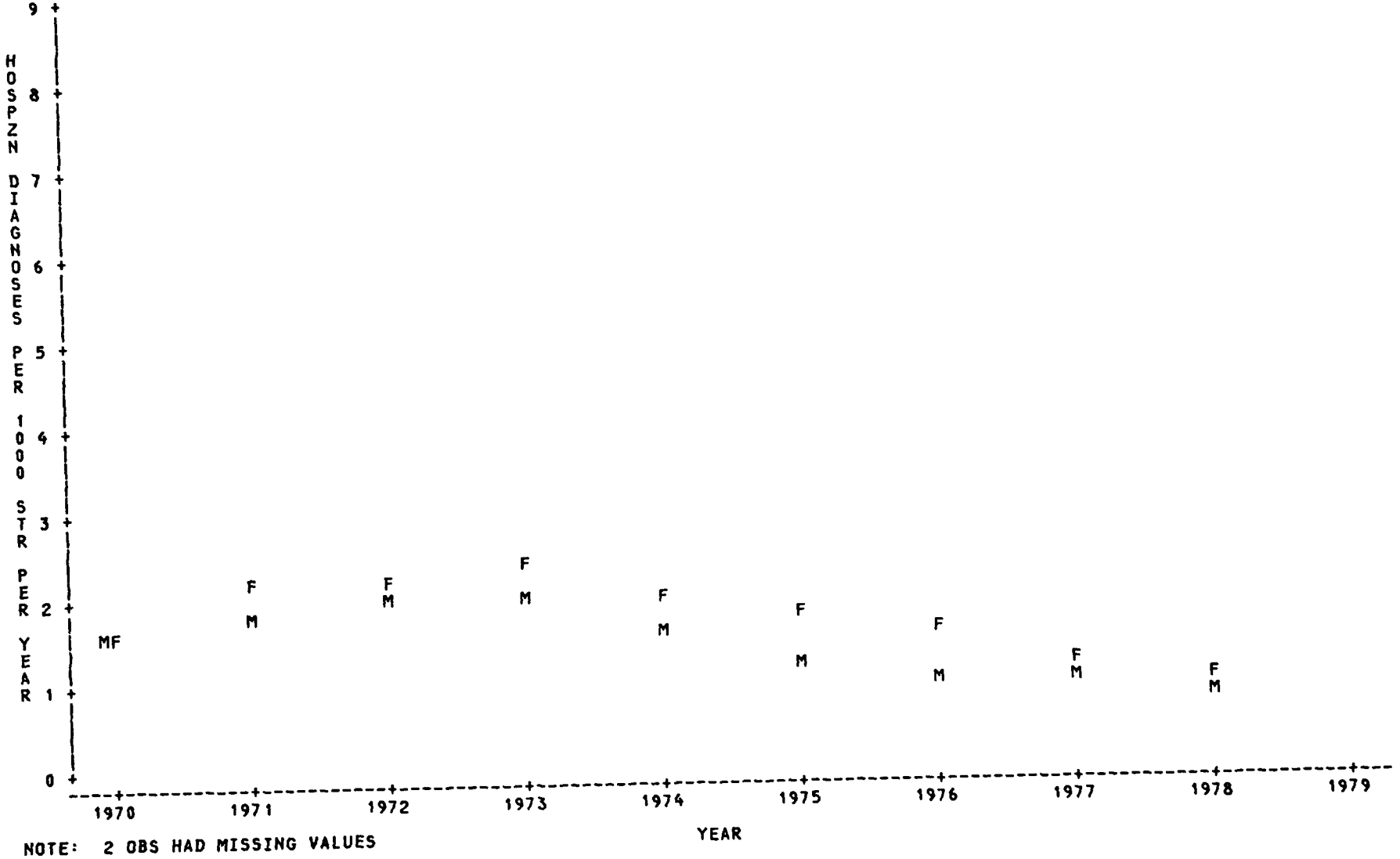
HEPATITIS RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F)
ACTIVE DUTY WORLDWIDE



NOTE: 16 OBS HAD MISSING VALUES

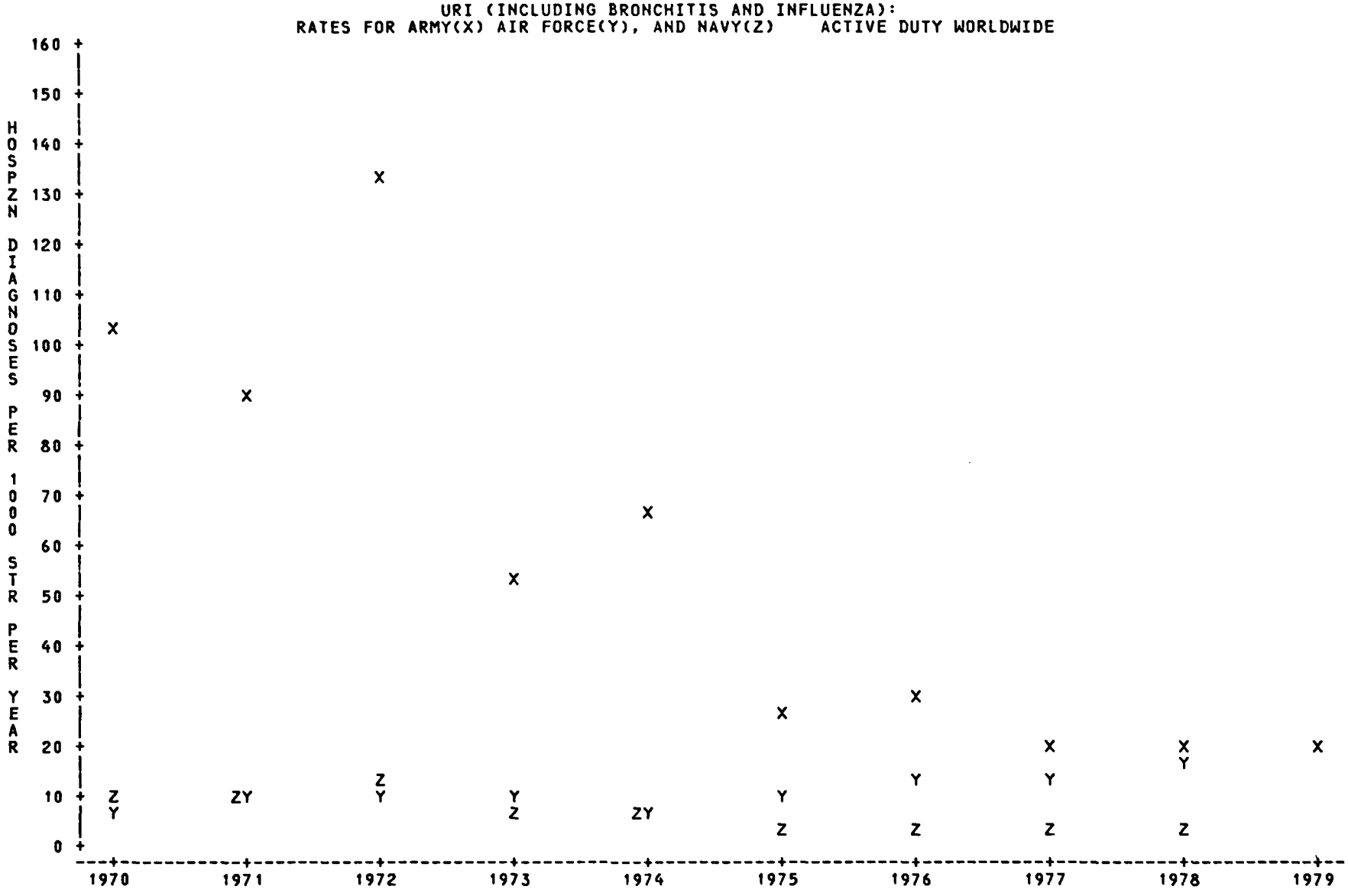
FIG. 50. XHEMALWW, XHEFEMWW

HEPATITIS RATES FOR AIR FORCE MEN(M) AND FOR AIR FORCE WOMEN(F)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

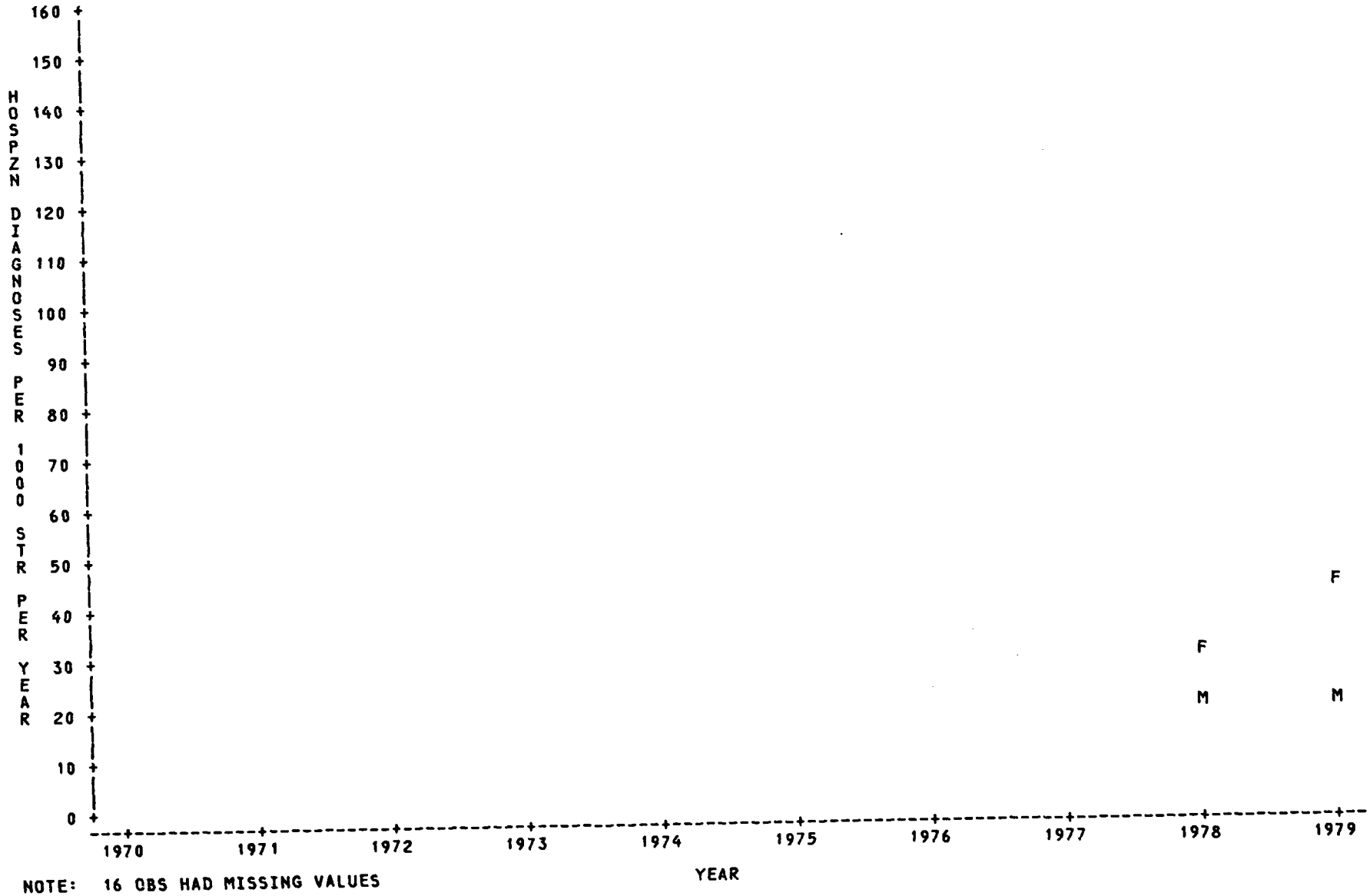
FIG. 51. YHEMALWW, YHEFEMWW



NOTE: 2 OBS HAD MISSING VALUES

FIG. 52. XRPADWW, YRPADWW, ZRPADWW

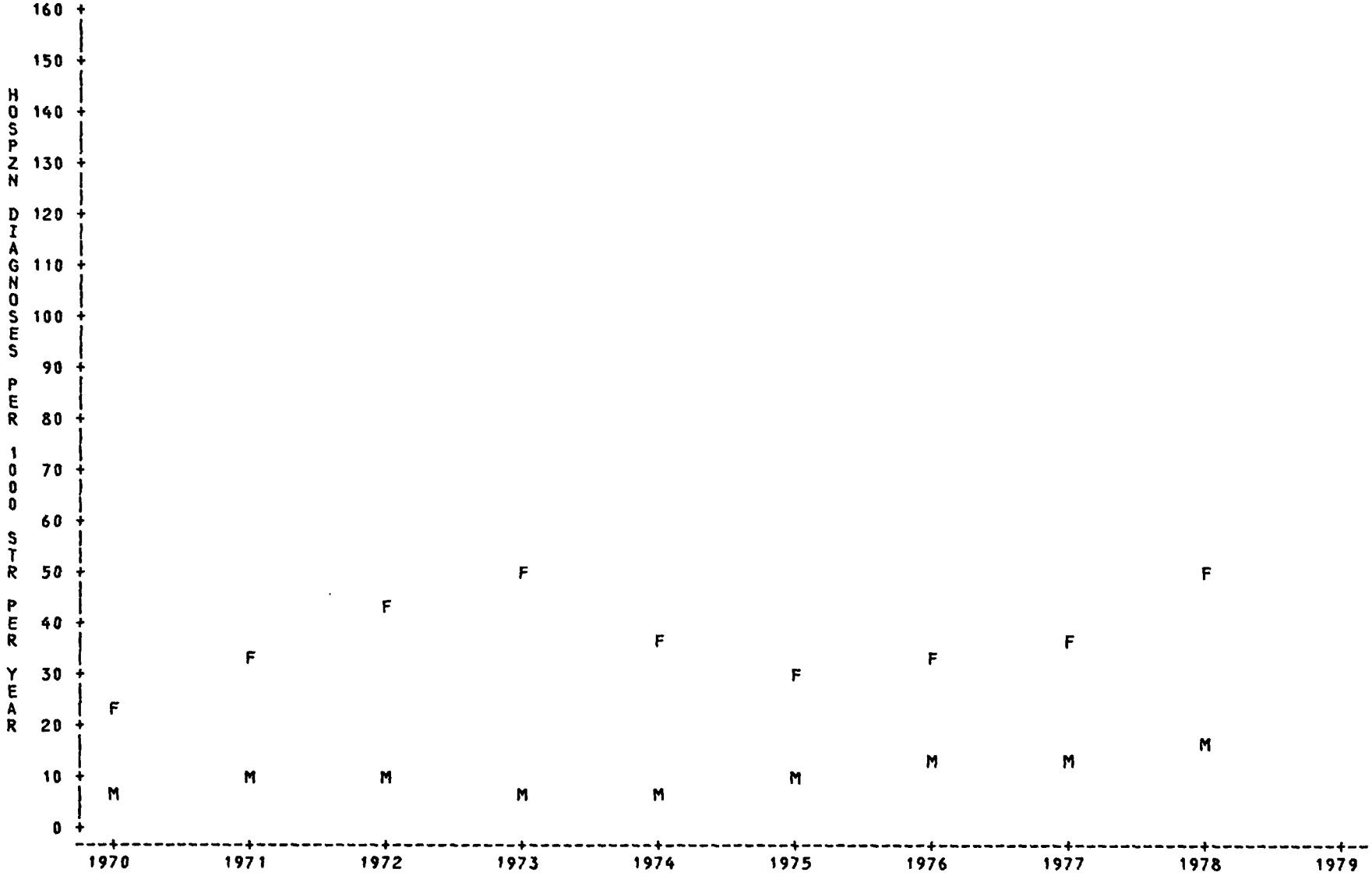
URI (INCLUDING BRONCHITIS AND INFLUENZA):
RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F) ACTIVE DUTY WORLDWIDE



NOTE: 16 OBS HAD MISSING VALUES

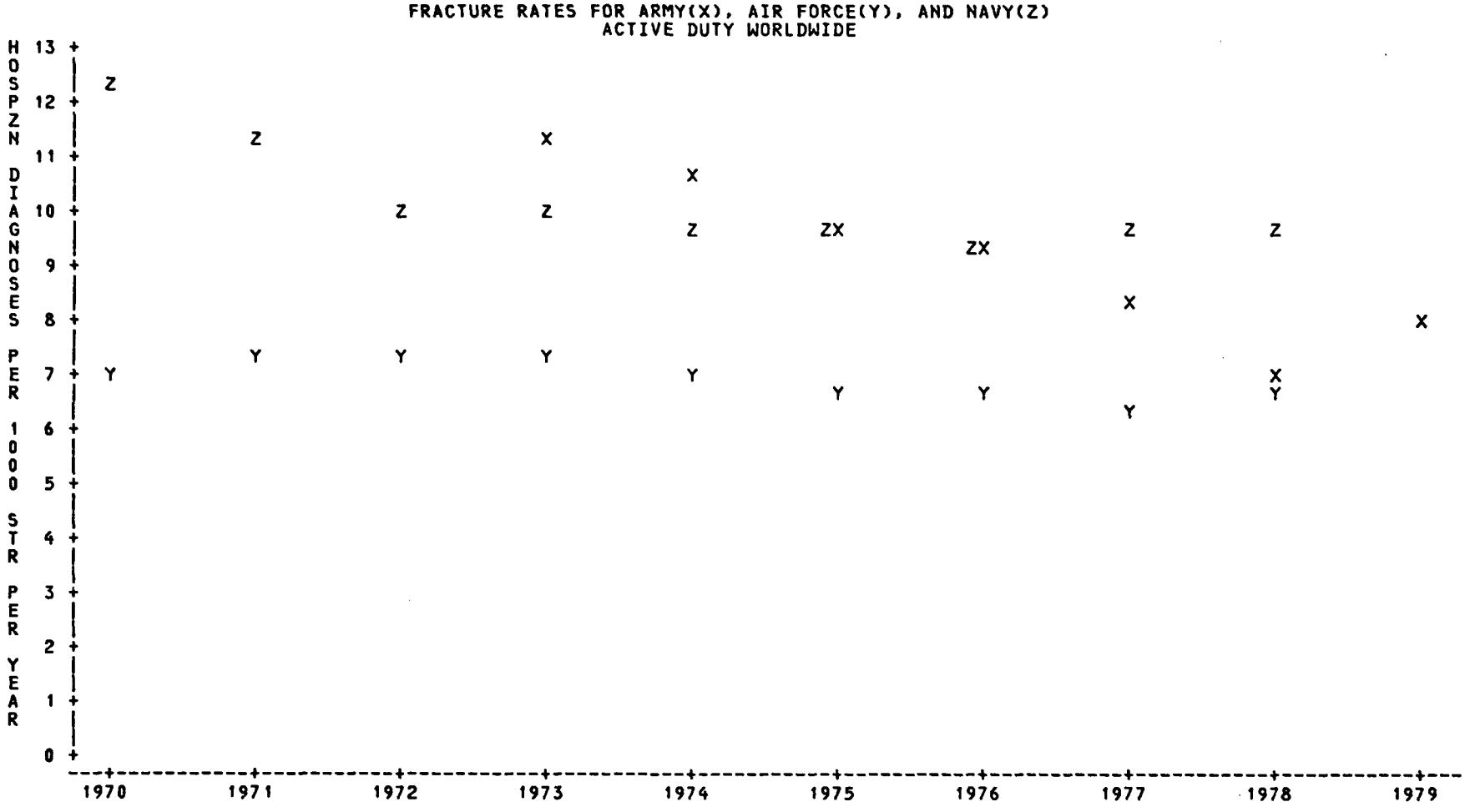
FIG. 53. XRPMALWW, XRPFEMWW

URI (INCLUDING BRONCHITIS AND INFLUENZA): RATES FOR AIR FORCE MEN(M) AND FOR AIR FORCE WOMEN(F)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

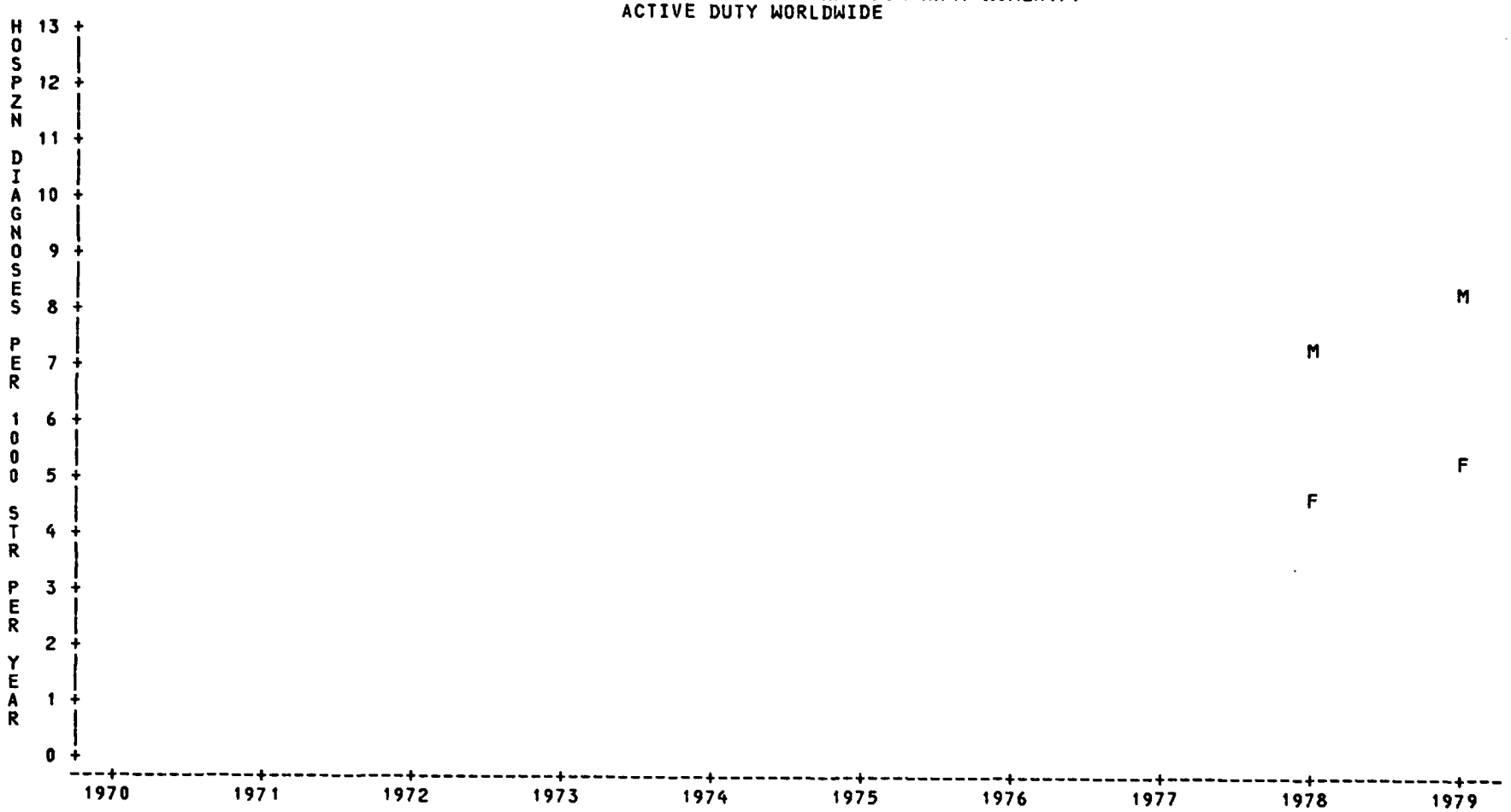
FIG. 54. YRPMALWW, YRPFEMWW



NOTE: 5 OBS HAD MISSING VALUES

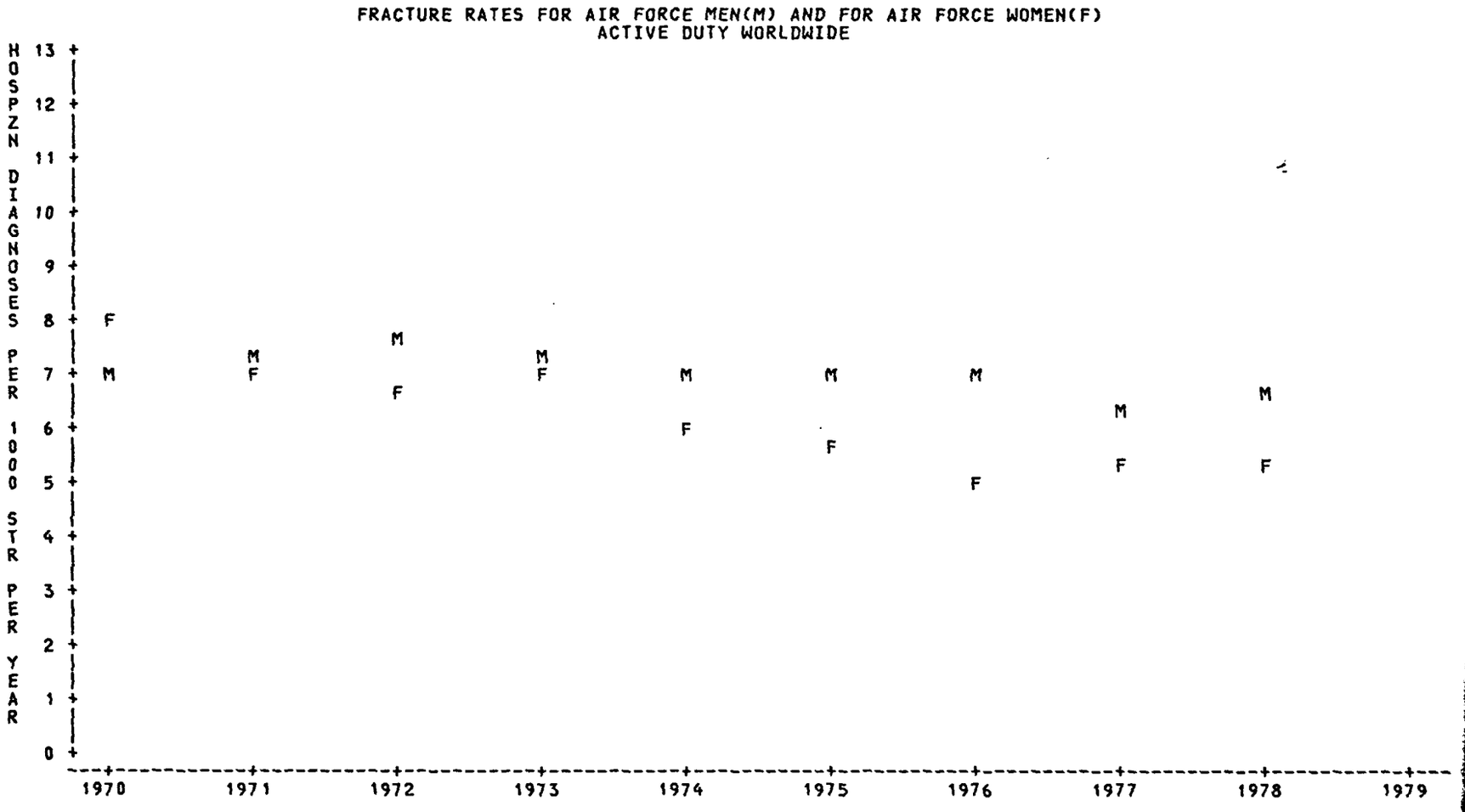
FIG. 55. XFRADWW, YFRADWW, ZFRADWW

FRACTURE RATES FOR ARMY MEN(M) AND FOR ARMY WOMEN(F)
ACTIVE DUTY WORLDWIDE



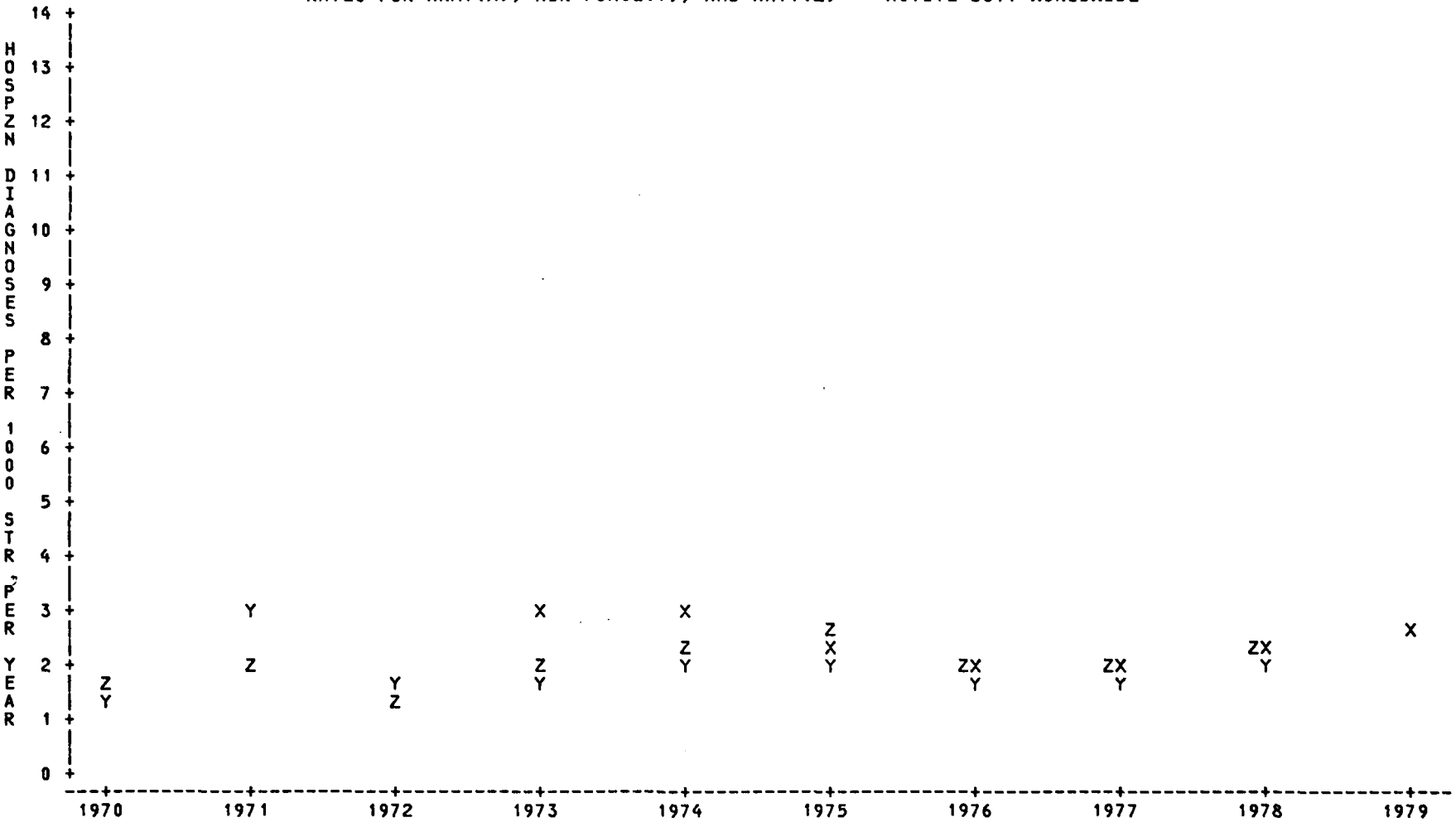
NOTE: 16 OBS HAD MISSING VALUES

FIG. 56. XFRMALWW, XFRFEMWW



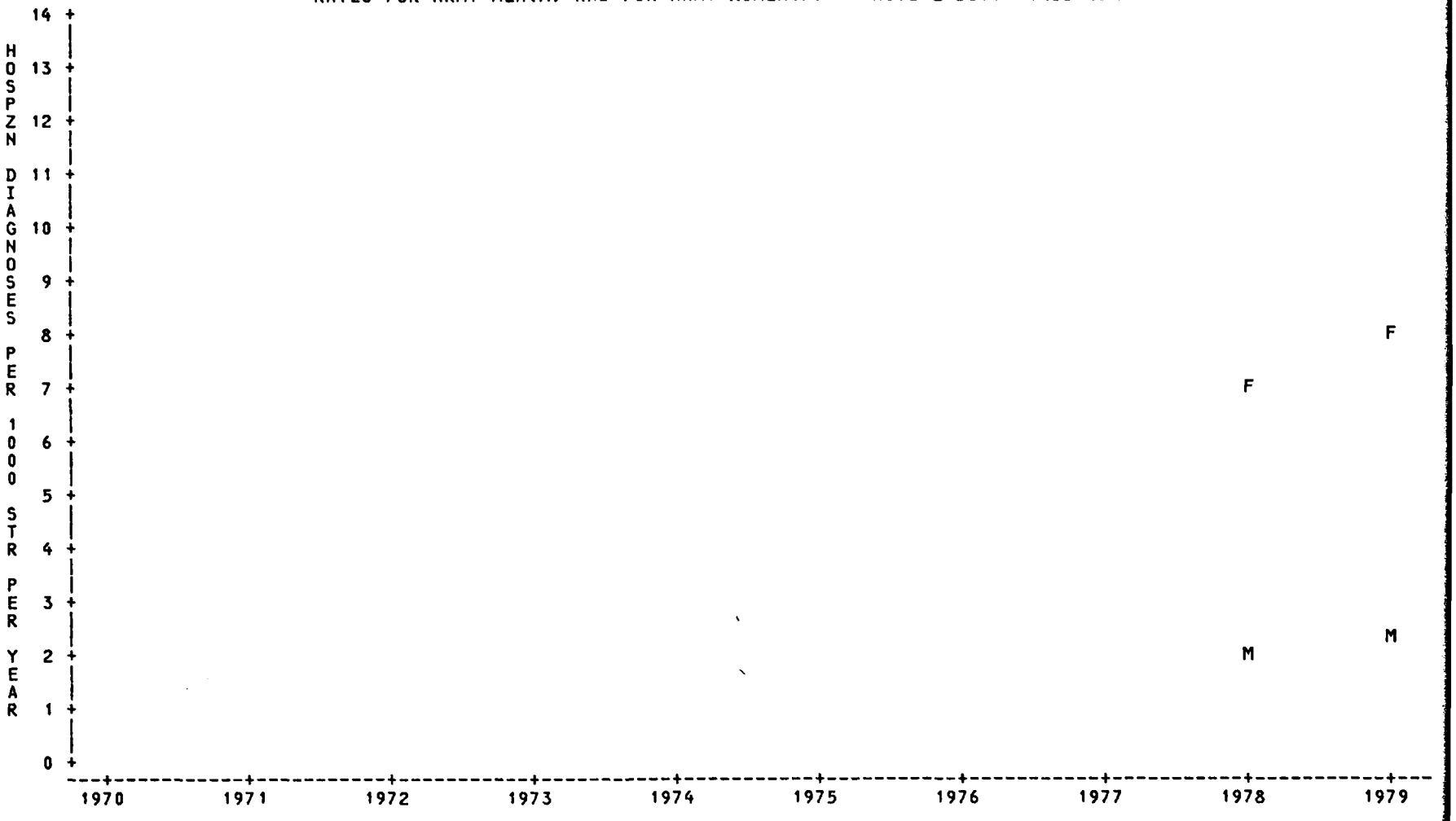
NOTE: 2 OBS HAD MISSING VALUES

FIG. 57. YFRMALWW, YFRFEMWW



NOTE: 5 OBS HAD MISSING VALUES

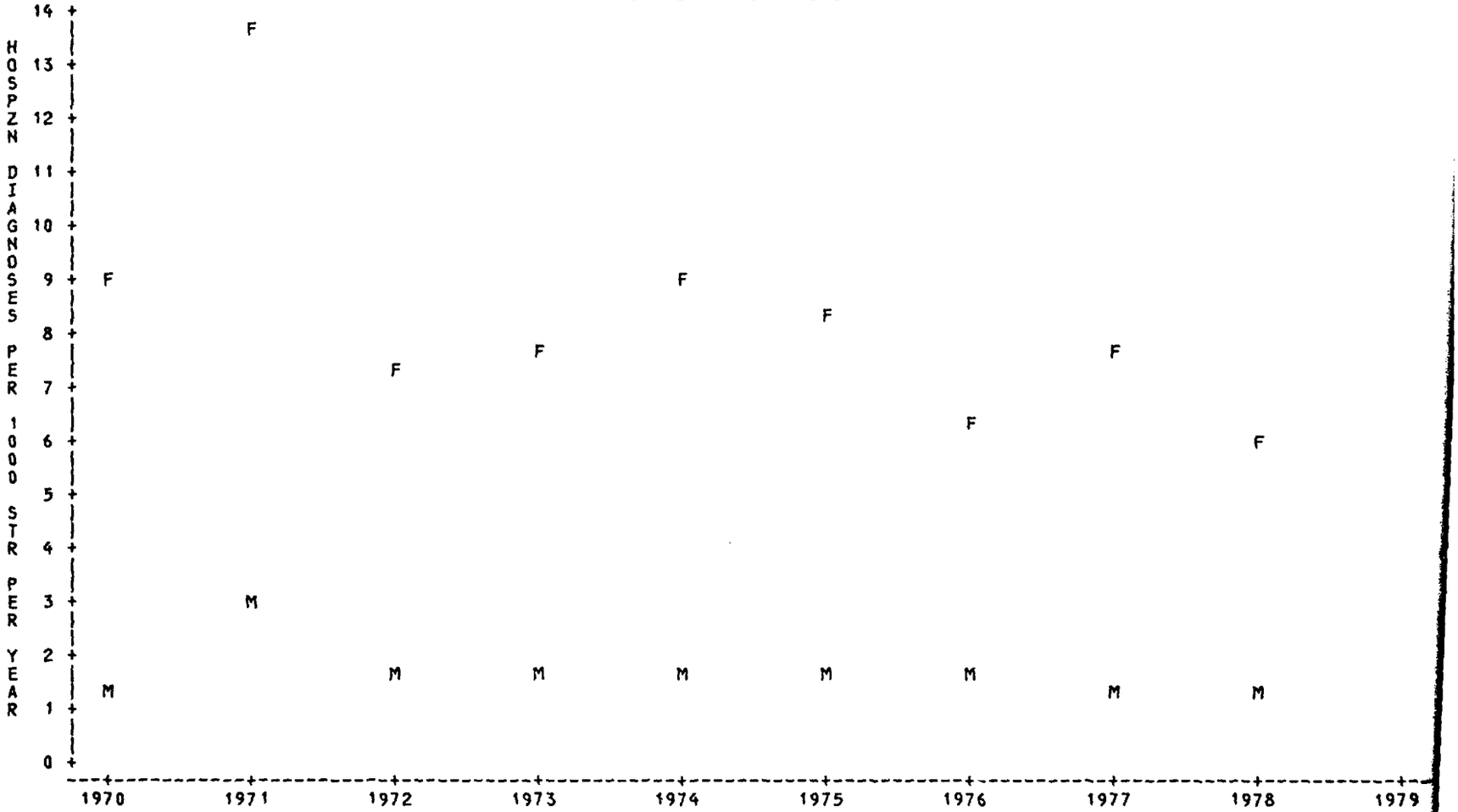
FIG. 58. XCHADWW, YCHADWW, ZCHADWW



NOTE: 16 OBS HAD MISSING VALUES

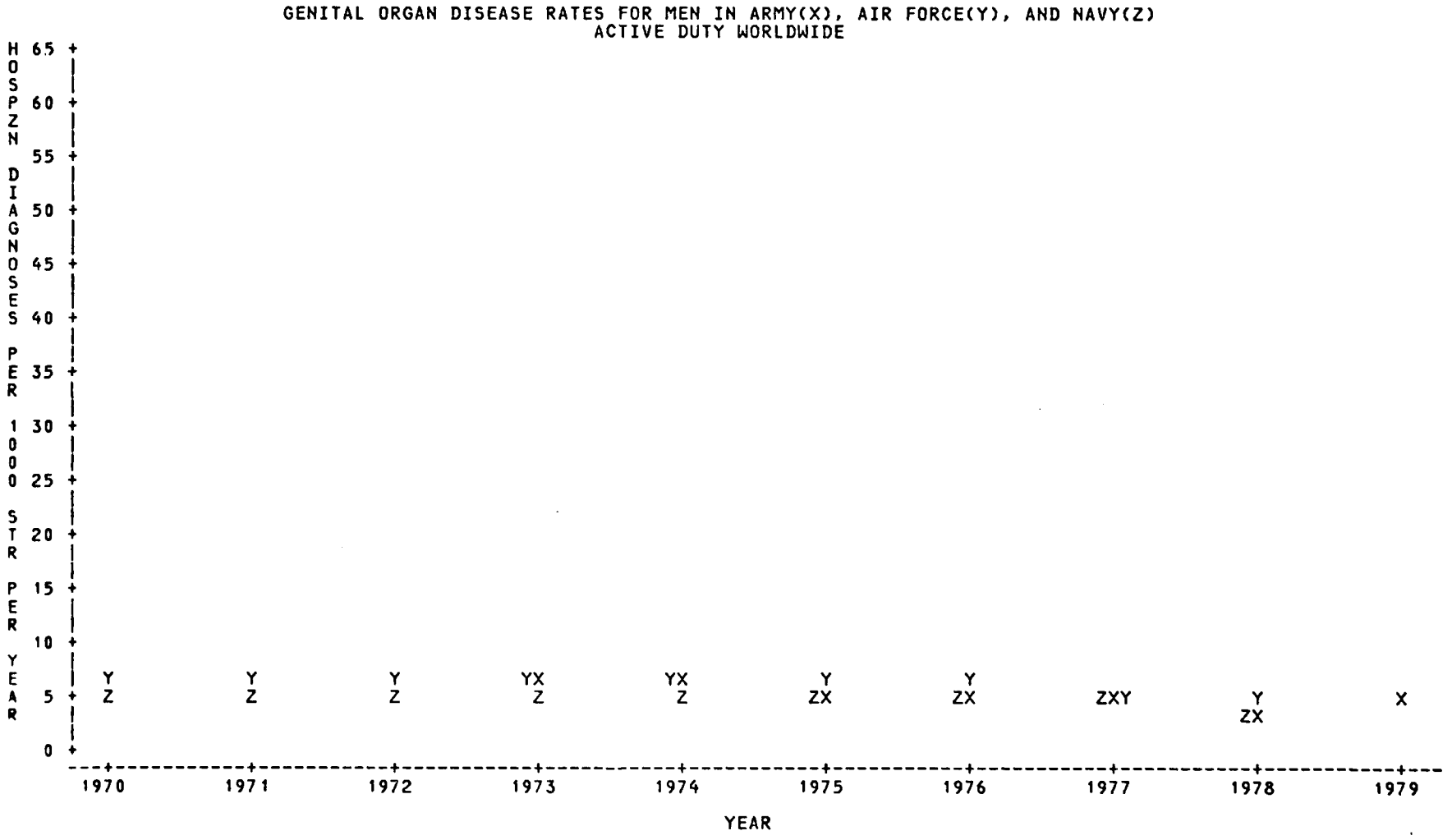
FIG. 59. XCHMALWW, XCHFEMWW

ADVERSE EFFECTS FROM MEDICINAL/NONMEDICINAL SUBSTANCES:
RATES FOR AIR FORCE MEN(M) AND FOR AIR FORCE WOMEN(F)
ACTIVE DUTY WORLDWIDE



NOTE: 2 OBS HAD MISSING VALUES

FIG. 60. YCHMALWW, YCHFEMWW



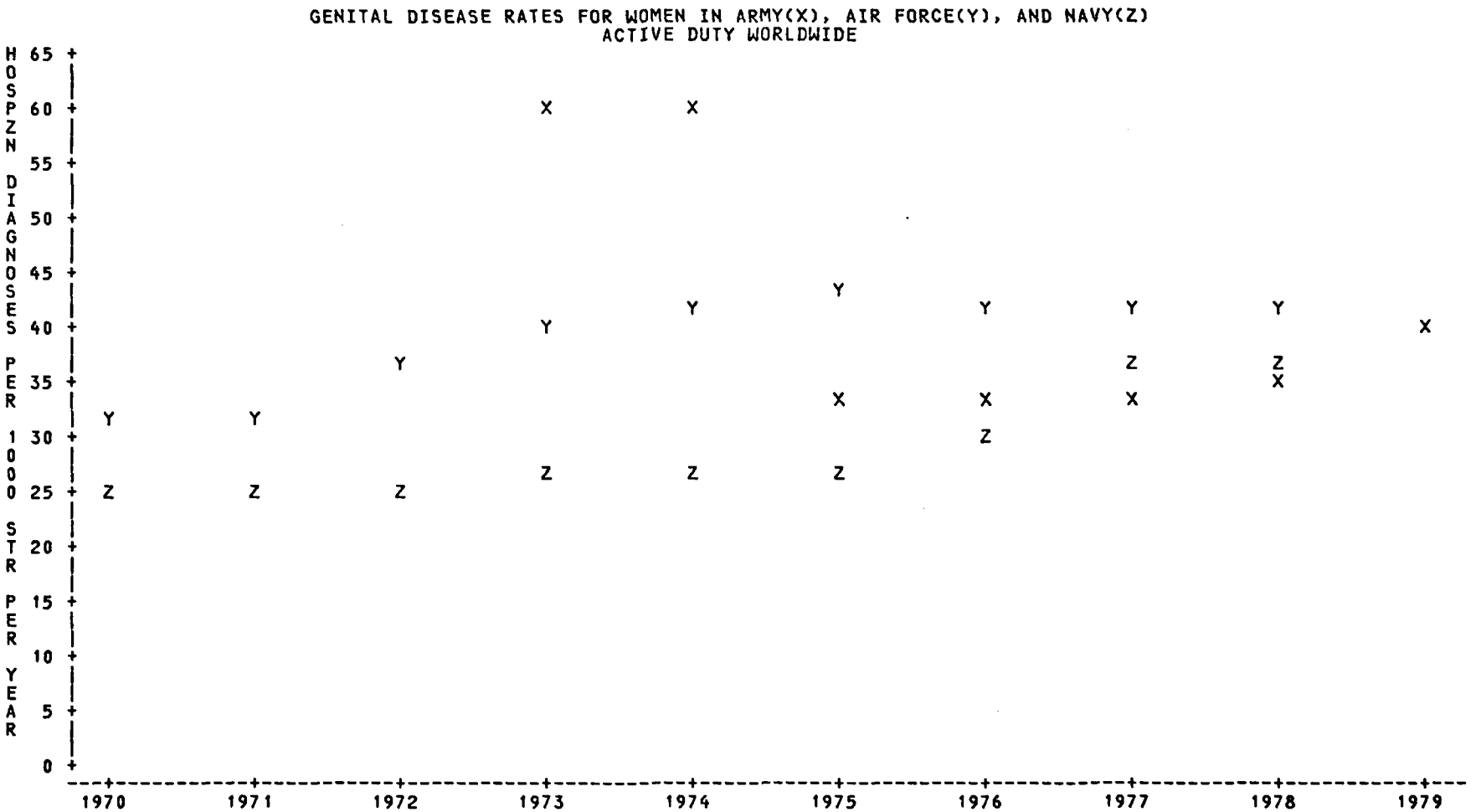
NOTE: 5 OBS HAD MISSING VALUES

FIG. 61. XGEMALWW, YGEMALWW, ZGEMALWW

AD-A097 612 WALTER REED ARMY INST OF RESEARCH WASHINGTON DC F/G 6/5
DISEASE RATES IN THE MILITARY DURING THE 1970'S,(U)
APR 81 W E DATEL

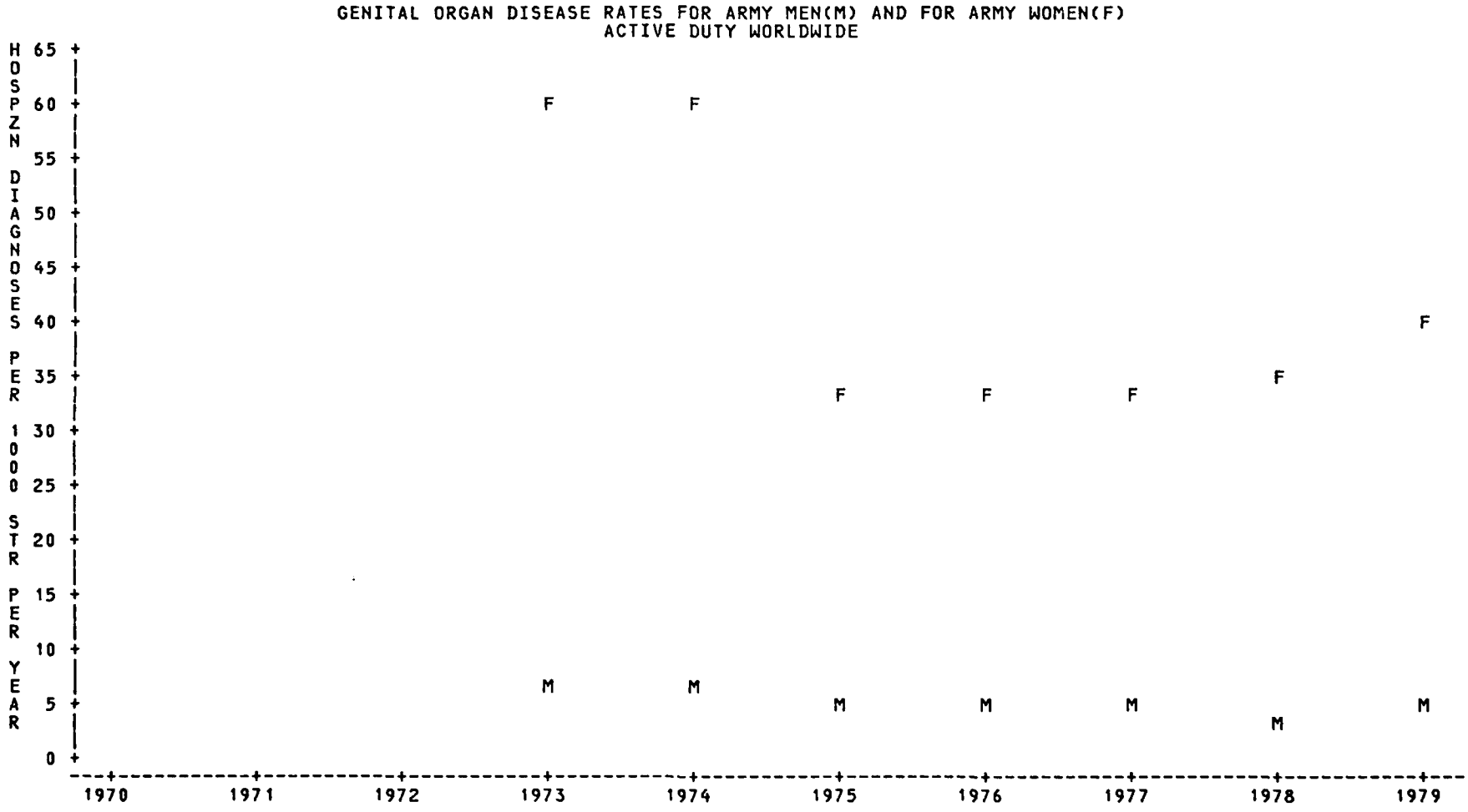
UNCLASSIFIED NL

END
DATE FILMED
5 81
DTIC



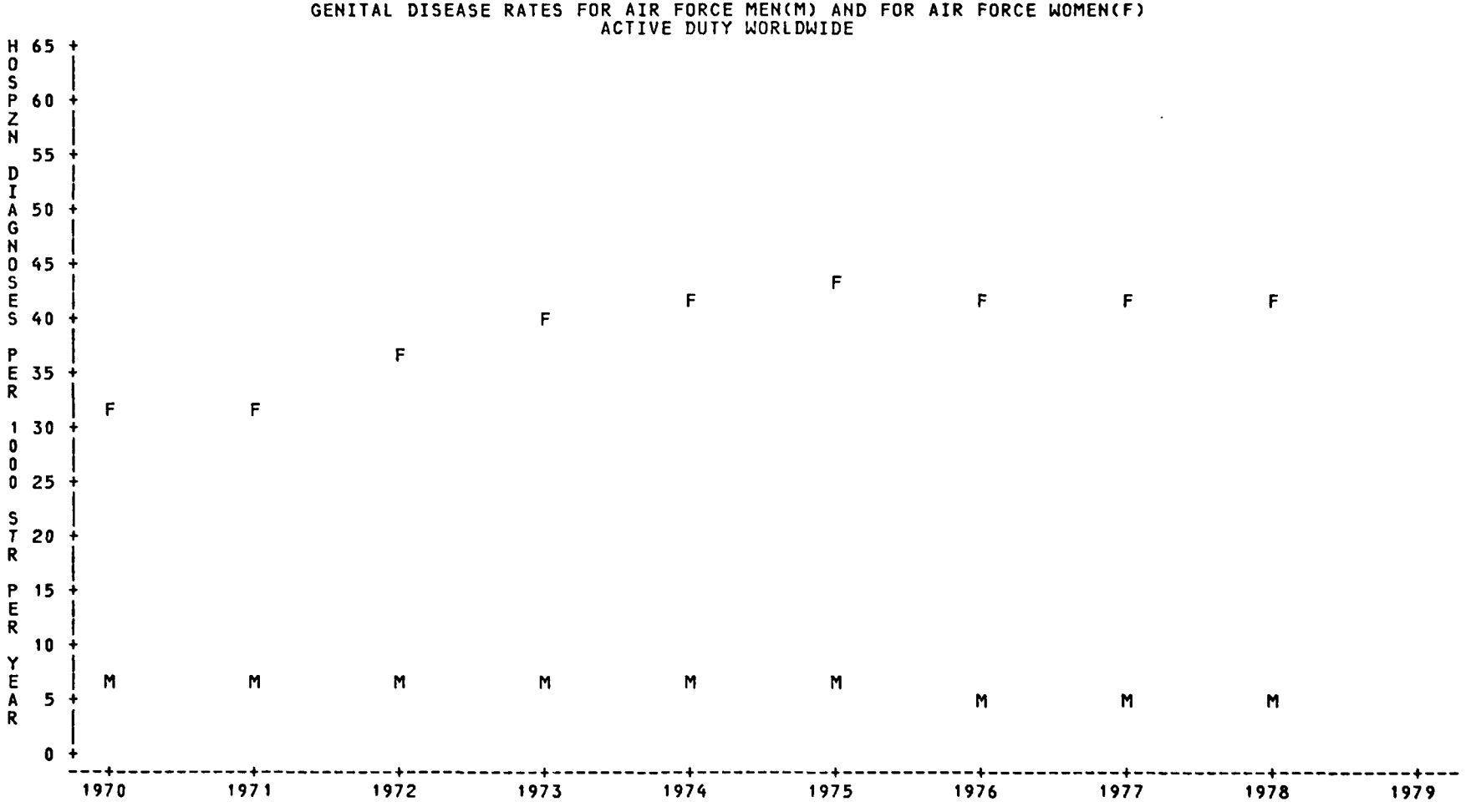
NOTE: 5 OBS HAD MISSING VALUES

FIG. 62. XGEFEMWW, YGEFEMWW, ZGEFEMWW



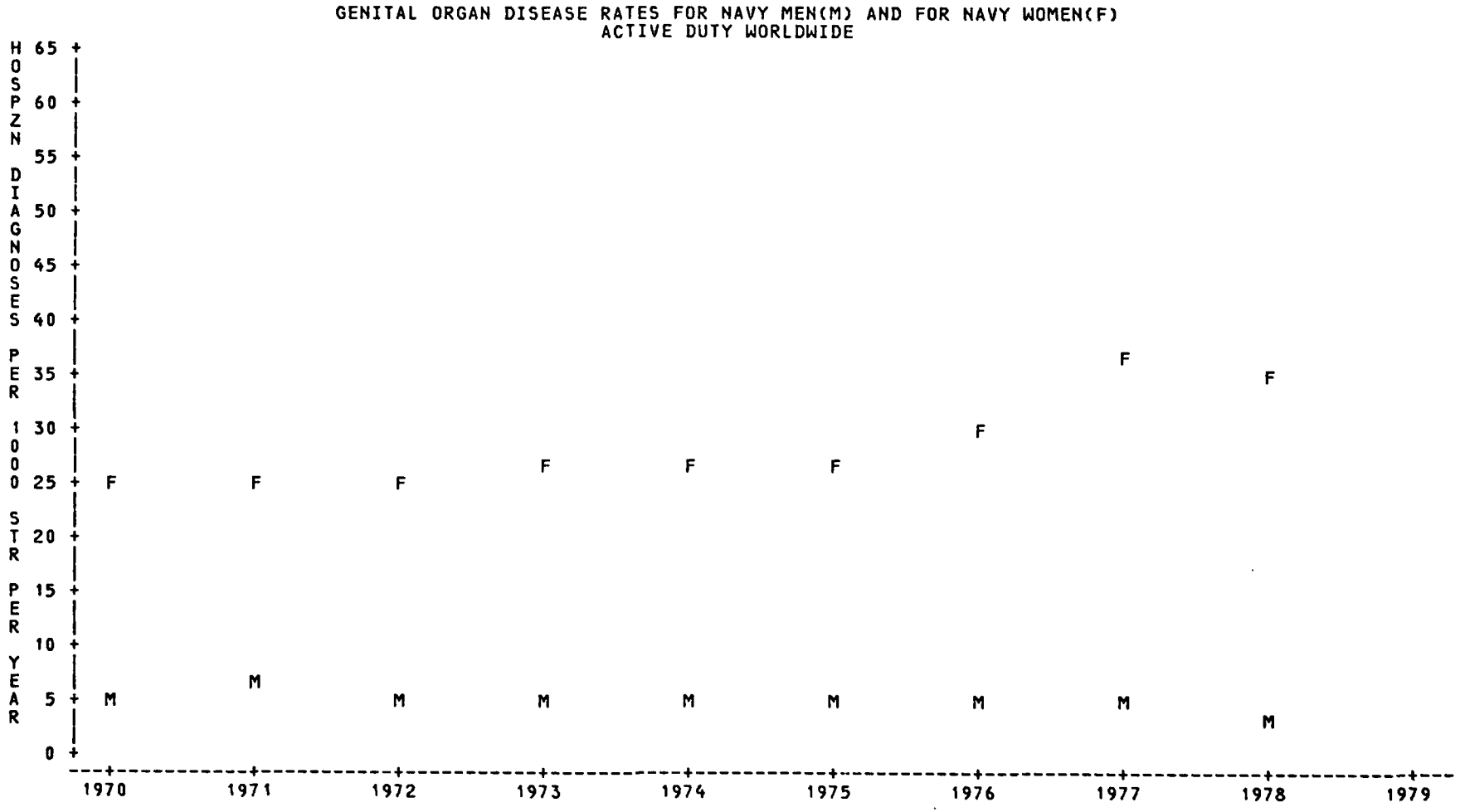
NOTE: 6 OBS HAD MISSING VALUES

FIG. 33. XGEMALWW, XGEFEMWW



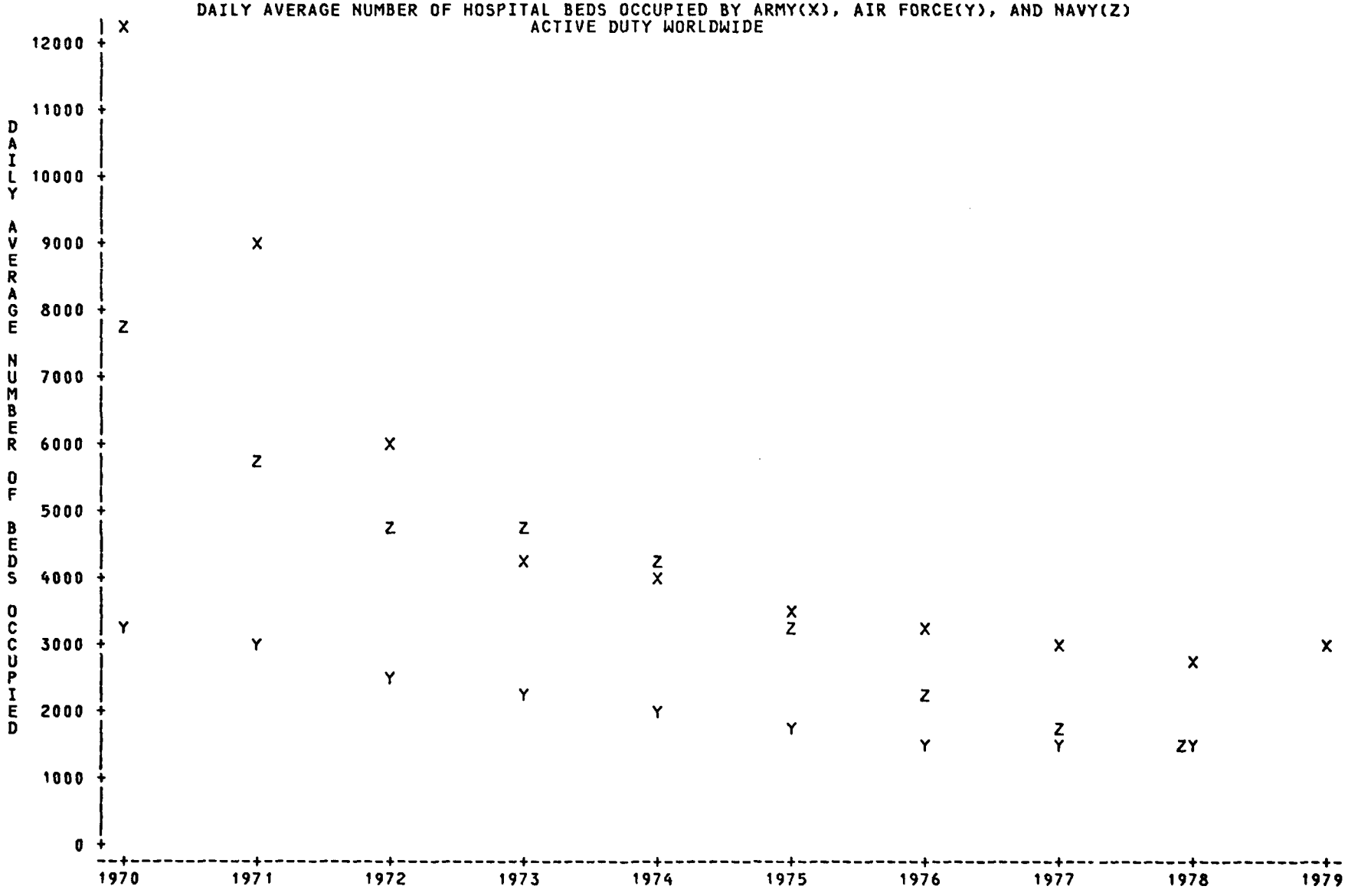
NOTE: 2 OBS HAD MISSING VALUES

FIG. 64. YGEMALWW, YGEFEMWW



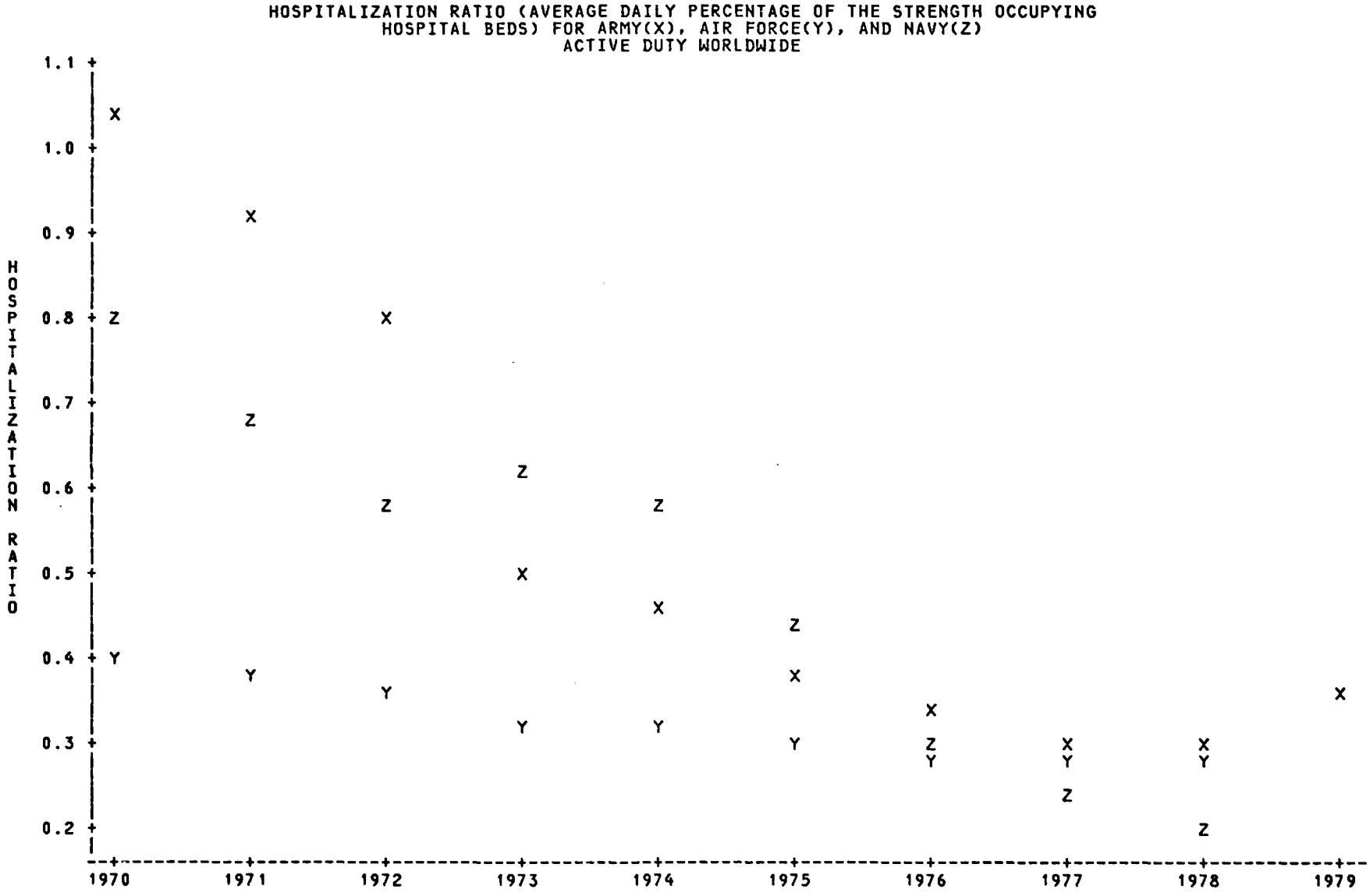
NOTE: 2 OBS HAD MISSING VALUES

FIG. 65. ZGEMALWW, ZGEFEMWW



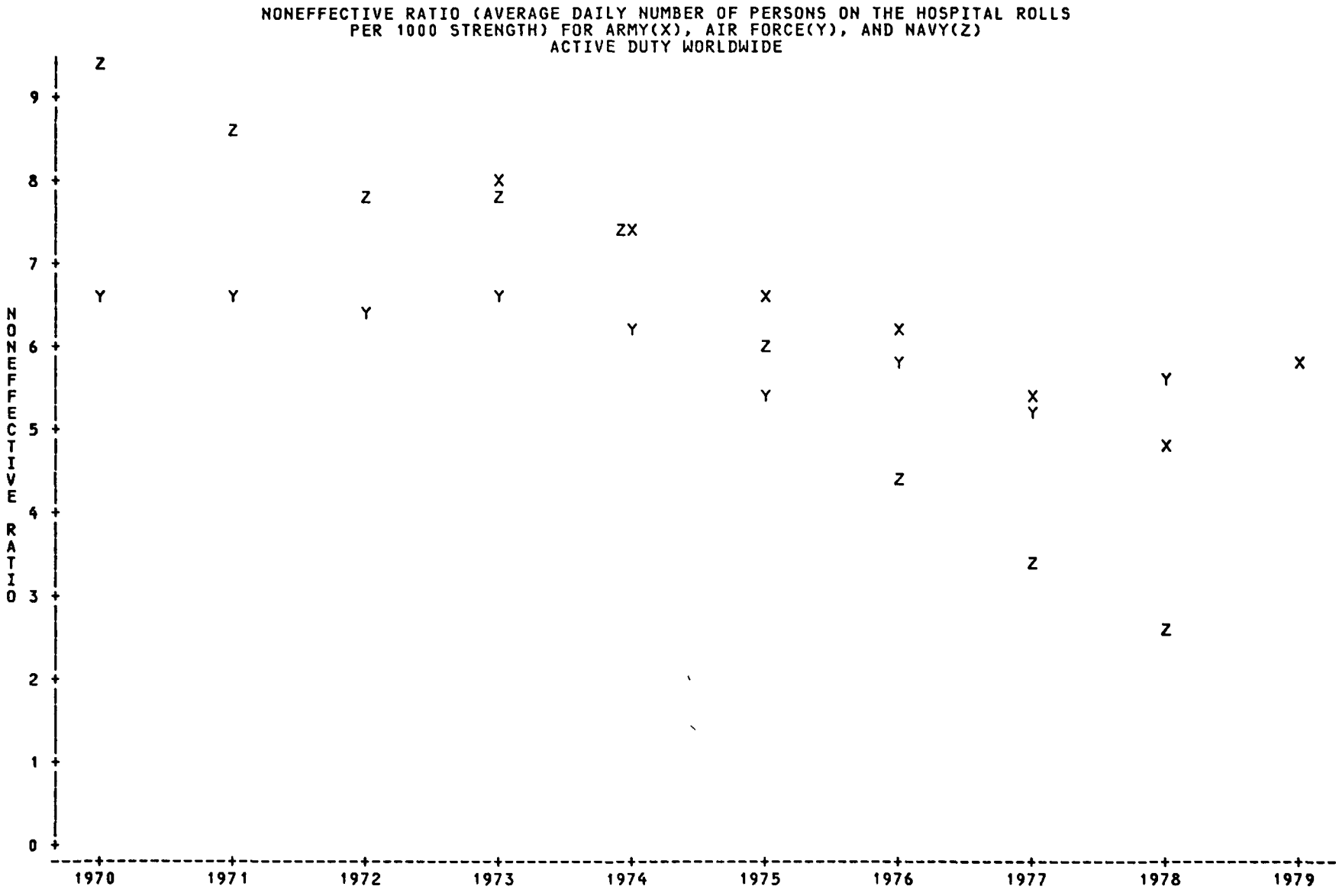
NOTE: 2 OBS HAD MISSING VALUES

FIG. 66. XBOADWW, YBOADWW, ZBOADWW



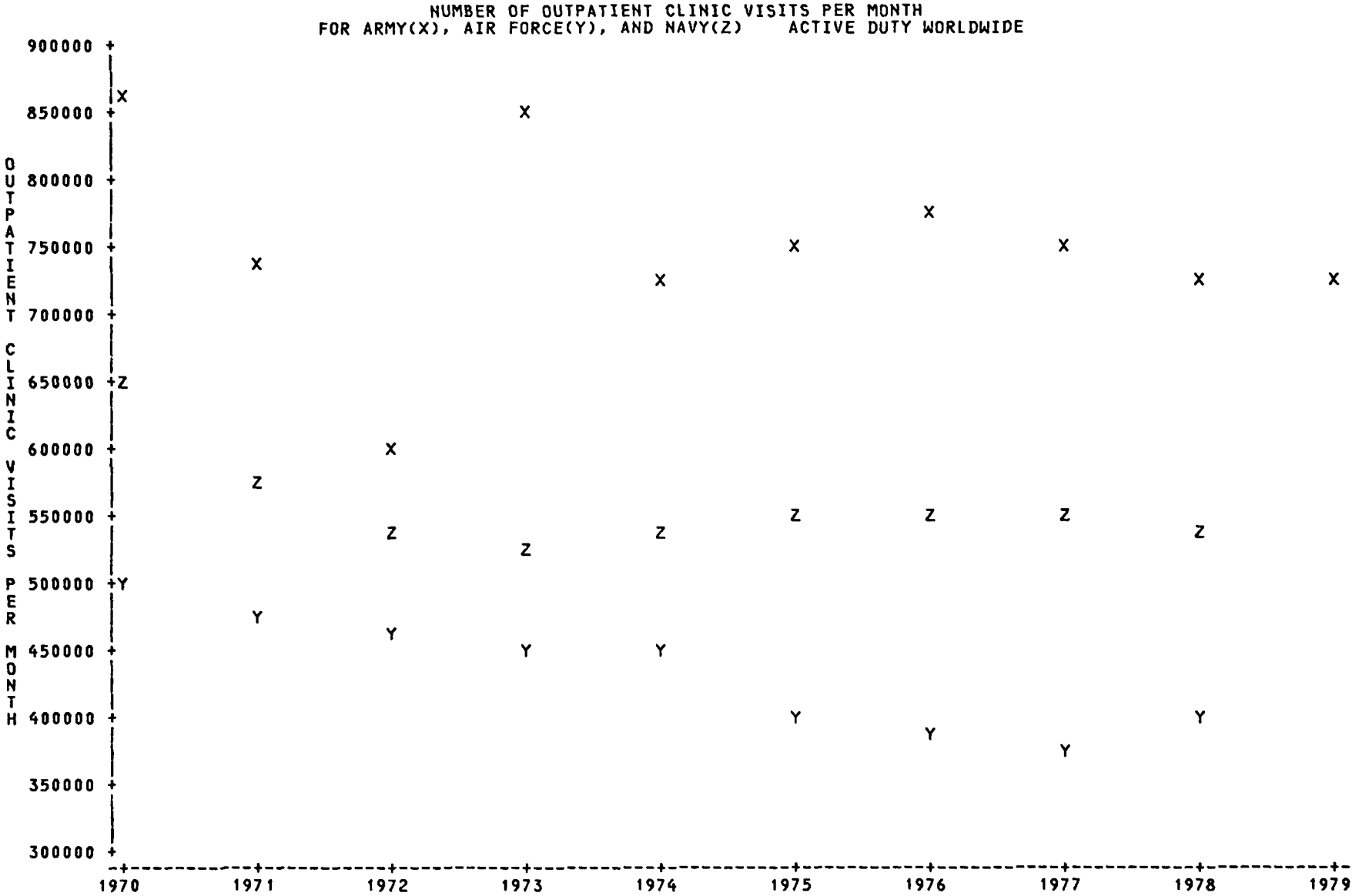
NOTE: 2 OBS HAD MISSING VALUES

FIG. 67. XHRADWW, YHRADWW, ZHRADWW



NOTE: 5 OBS HAD MISSING VALUES

FIG. 68. XNRADWW, YNRADWW, ZNRADWW



NOTE: 2 OBS HAD MISSING VALUES

FIG. 69. XCVADWW, YCVADWW, ZCVADWW

APPENDIX A

THE ARMY MORBIDITY DATA PRESENTED IN THIS REPORT WERE EXTRACTED FROM THE DASG PUBLICATION, "HEALTH OF THE ARMY." DISEASE RATES FOR THE AIR FORCE WERE DERIVED DIRECTLY FROM TAPE EXTRACTS OF THE AIR FORCE MEDICAL DATA BASE. THE NAVY DATA WERE OBTAINED FROM THE ANNUAL REPORTS OF THE SURGEON GENERAL AND FROM PRE-PUBLISHED DATA PROVIDED BY THE NAVAL MEDICAL DATA SERVICES CENTER. TO DECODE THE DISEASES AND THE OTHER VARIABLES STUDIED, USE THE FOLLOWING CODING INFORMATION:

X_____=ARMY
Y_____=AIR FORCE
Z_____=NAVY (INCLUDING MARINES)
____WW=WORLDWIDE
____CON=CONUS
____OS=OVERSEAS
____EUR=EUROPE
____PAC=WESTERN PACIFIC
__ALL__=ALL PATIENTS (ACTIVE DUTY, DEPENDENTS, RETIRED, OTHER)
__AD___=ACTIVE DUTY PATIENTS
__MAL__=ACTIVE DUTY MALE PATIENTS
__FEM__=ACTIVE DUTY FEMALE PATIENTS
_GI_____=CERTAIN OTHER INFECTIOUS INTESTINAL DISEASES (004, 006-009)
_PS_____=PSYCHOSES (290-299)
_NE_____=NEUROSES (300)
_PD_____=PERSONALITY DISORDERS (301)
_TR_____=TRANSIENT SITUATIONAL DISTURBANCES (307)
_AL_____=ALCOHOLISM (303)
_IA_____=IMPROPER USE OF ALCOHOL (7932)
_DR_____=DRUG DEPENDENCE (304)
_ID_____=IMPROPER USE OF DRUGS (793A-793M)
_MD_____=MENTAL DISORDER (ALL OF CLASS V, EXCEPT FOR ARMY--SEE NOTE 4 BELOW)
_PW_____=PSYCHIATRIC DISORDERS, INCLUDING DRUG AND ALCOHOL DISORDERS (290-301, 303, 304, 307, 7932, 793A-793M. BUT SEE NOTES 5 AND 6 BELOW)
_PO_____=PSYCHIATRIC DISORDERS, NOT INCLUDING DRUG & ALCOHOL DISORDERS (290-301, 307)
_DA_____=DRUG AND ALCOHOL DISORDERS (303, 304, 7932, 793A-793M. SEE NOTES 5 AND 6 BELOW)
_HE_____=HEPATITIS ALL FORMS (070, 5730, 9992)
_RP_____=UPPER RESPIRATORY INFECTIONS (460-474)
_GE_____=GENITAL ORGAN DISEASE (600-607, 612-629)
_FR_____=FRACTURES (800-829)
_CH_____=ADVERSE EFFECTS FROM CHEMICAL SUBSTANCES (960-989)
_DS_____=ALL DISEASES (000-799, Y00-Y19)
_IJ_____=ALL INJURIES (800-999)
_DI_____=ALL DISEASE AND INJURY (000-999, Y00-Y19)
_BO_____=DAILY AVERAGE NUMBER OF BEDS OCCUPIED
_CV_____=TOTAL CLINIC VISITS PER MONTH FOR THE YEAR
_NR_____=THE NONEFFECTIVENESS RATIO (I.E., THE AVERAGE DAILY NUMBER OF PERSONS ON HOSPITAL ROLLS PER 1000 STRENGTH)
_HR_____=THE HOSPITALIZATION RATIO (I.E., THE AVERAGE DAILY PERCENTAGE OF THE STRENGTH WHO OCCUPY HOSPITAL BEDS)
_ST_____=STRENGTH AT END OF FISCAL YEAR (FROM DOD "SELECTED MANPOWER STATISTICS" MARCH 1980 FOR ARMY; FROM SURGEON GENERALS' FIGURES FOR NAVY AND AIR FORCE)

NOTE 1: THE ALPHANUMERIC DIAGNOSTIC CODES PRESENTED IN PARENTHESES ARE FROM ICDA-8 AS AMENDED BY DOD.

NOTE 2: THE NUMERATORS FOR THE DISEASE RATES ARE THE NUMBER OF TIMES THE HOSPITALIZATION DIAGNOSIS WAS REPORTED BY MILITARY MEDICAL FACILITIES. (EXCEPTION: SEE PARAGRAPH (a) ON P. 5 OF TEXT). THE DENOMINATORS FOR THE DISEASE RATES ARE THE CORRESPONDING NUMBER OF PERSONS AT RISK (I.E., THE CORRESPONDING STRENGTHS). THE DISEASE RATES THEMSELVES ARE ANNUALIZED AND ARE EXPRESSED AS INCIDENCE PER 1,000 STRENGTH.

NOTE 3: THE VARIABLES "_BO_____" "_CV_____" "_NR_____" "_HR_____" AND "_ST_____" ARE NOT DISEASE RATES PER SE, AND ARE EXPRESSED AS PER THEIR SPECIFIC DEFINITIONS, ABOVE.

NOTE 4: XMD_____=XPW_____ MINUS XIA_____ MINUS XID_____.

NOTE 5: YDA_____ AND YPW_____ DO NOT INCLUDE YIA_____ NOR YID_____.

NOTE 6: ZDA_____ AND ZPW_____ DO NOT INCLUDE ZIA_____.

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XALADCON	.	.	.	3.900	3.225	2.900	2.208	1.875	1.858	2.48
XALADEUR	.	.	.	5.016	5.700	5.391	4.766	5.941	6.958	8.01
XALADOS	.	.	.	5.650	5.175	4.533	4.158	5.200	5.958	7.38
XALADPAC	.	.	.	10.883	5.466	3.408	2.425	3.433	4.991	6.20
XALADWW	.	.	.	4.566	3.933	3.500	3.000	3.075	3.400	4.38
XALFEMCON	.	.	.	.	.	.	.	.	1.541	1.99
XALFEMEUR	.	.	.	.	.	.	.	.	4.675	4.82
XALFEMOS	.	.	.	.	.	.	.	.	3.766	4.39
XALFEMPAC	.	.	.	.	.	.	.	.	1.558	4.20
XALFEMWW	.	.	.	.	.	.	.	.	2.258	2.88
XALMALCON	.	.	.	.	.	.	.	.	1.875	2.52
XALMALEUR	.	.	.	.	.	.	.	.	7.133	8.27
XALMALOS	.	.	.	.	.	.	.	.	6.091	7.56
XALMALPAC	.	.	.	.	.	.	.	.	5.158	6.37
XALMALWW	.	.	.	.	.	.	.	.	3.508	4.52
XBOADCON	8507.	6790.	4844.	3150.833	3080.500	2569.583	2494.916	2229.083	2167.333	2277.750
XBOADEUR	.	.	.	793.833	689.416	647.416	554.583	566.583	602.750	564.333
XBOADWPAC	.	.	.	154.500	123.166	109.833	85.083	78.333	80.416	74.250
XBOADWW	12322.	9015.	6104.	4194.500	3976.916	3429.583	3235.833	2971.333	2871.500	3027.583
XBOALLCON	12687.	10768.	8734.	6651.333	6500.416	5970.166	5918.583	5476.583	5341.166	5727.083
XBOALLWW	18776.	14766.	11392.	8835.000	8452.083	7867.333	7625.500	7097.666	7076.833	7436.583
XCHADCON	.	.	.	3.283	3.466	2.783	2.441	2.458	2.616	3.08
XCHADEUR	.	.	.	2.550	2.375	1.825	1.358	1.750	2.350	2.54
XCHADOS	.	.	.	2.450	2.183	1.575	1.383	1.608	2.000	2.42
XCHADPAC	.	.	.	2.466	1.766	1.016	.916	.766	1.241	2.35
XCHADWW	.	.	.	2.983	3.008	2.350	2.075	2.166	2.358	2.83
XCHFEMCON	.	.	.	.	.	.	.	.	7.958	8.93
XCHFEMEUR	.	.	.	.	.	.	.	.	5.525	6.69
XCHFEMOS	.	.	.	.	.	.	.	.	4.650	6.06
XCHFEMPAC	.	.	.	.	.	.	.	.	1.500	2.42
XCHFEMWW	.	.	.	.	.	.	.	.	6.925	7.91
XCHMALCON	.	.	.	.	.	.	.	.	2.150	2.58
XCHMALEUR	.	.	.	.	.	.	.	.	2.141	2.22
XCHMALOS	.	.	.	.	.	.	.	.	1.825	2.14
XCHMALPAC	.	.	.	.	.	.	.	.	1.241	2.36
XCHMALWW	.	.	.	.	.	.	.	.	2.025	2.40
XCVADCON	550860.	479700.	423630.	663477.	538607.	542710.	571603.	531309.	506592.	507825.
XCVADEUR	.	.	.	117266.	116976.	128095.	130587.	149299.	149898.	149308.
XCVADWPAC	.	.	.	38670.	36753.	43973.	39429.	38386.	34482.	32583.
XCVADWW	861750.	739140.	601020.	854937.	726647.	746470.	774756.	753353.	725000.	723856.
XCVALLCON	1303680.	1240650.	1193040.	1293128.	1404836.	1467892.	1488166.	1364000.	1305755.	1341885.
XCVALLWW	1885110.	1738380.	1591170.	1696597.	1814623.	1902892.	1915049.	1793701.	1721962.	1763318.
XDAADCON	.	.	.	15.433	11.175	5.933	4.000	3.225	3.175	4.11
XDAADEUR	.	.	.	51.833	33.958	25.341	14.983	12.425	16.850	16.90
XDAADOS	.	.	.	41.950	25.825	20.808	12.500	11.016	13.641	14.88
XDAADPAC	.	.	.	30.750	13.366	7.358	3.775	4.891	6.925	8.72
XDAADWW	.	.	.	25.200	16.408	11.350	7.266	6.050	7.108	8.27

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XDAFEMCON	.	.	.	.	.	.	.	.	3.341	3.77
XDAFEMEUR	.	.	.	.	.	.	.	.	10.866	13.61
XDAFEMOS	.	.	.	.	.	.	.	.	8.983	11.86
XDAFEMPAC	.	.	.	.	.	.	.	.	4.283	7.09
XDAFEMWW	.	.	.	.	.	.	.	.	5.150	6.71
XDAMALCON	.	.	.	.	.	.	.	.	3.141	4.14
XDAMALEUR	.	.	.	.	.	.	.	.	18.158	17.62
XDAMALOS	.	.	.	.	.	.	.	.	14.558	15.23
XDAMALPAC	.	.	.	.	.	.	.	.	7.075	8.87
XDAMALWW	.	.	.	.	.	.	.	.	7.533	8.57
XDIADCON	383.	383.	462.	166.100	193.725	175.183	188.791	164.300	141.083	165.04
XDIADEUR	206.	195.	243.	183.850	124.325	116.066	107.758	104.208	112.733	108.12
XDIADOS	349.	305.	286.	163.083	115.783	111.441	104.225	96.450	98.375	102.95
XDIADPAC	424.	396.	377.	124.066	105.383	100.358	86.608	79.916	83.350	89.45
XDIADWW	367.	347.	391.	164.950	166.075	152.033	158.700	139.708	125.041	141.12
XDIFEMCON	.	.	.	.	.	.	.	.	309.225	363.21
XDIFEMEUR	.	.	.	.	.	.	.	.	277.133	242.32
XDIFEMOS	.	.	.	.	.	.	.	.	243.925	228.86
XDIFEMPAC	.	.	.	.	.	.	.	.	168.733	178.10
XDIFEMWW	.	.	.	.	.	.	.	.	289.650	315.09
XDIMALCON	.	.	.	.	.	.	.	.	127.450	147.27
XDIMALEUR	.	.	.	.	.	.	.	.	101.716	97.27
XDIMALOS	.	.	.	.	.	.	.	.	89.208	92.77
XDIMALPAC	.	.	.	.	.	.	.	.	78.958	82.89
XDIMALWW	.	.	.	.	.	.	.	.	112.458	126.18
XDRADCON	.	.	.	2.450	1.666	.866	.566	.250	.366	.43
XDRADEUR	.	.	.	4.650	2.900	.941	.466	.300	1.216	1.48
XDRADOS	.	.	.	3.600	2.191	.766	.541	.450	1.041	1.59
XDRADPAC	.	.	.	1.050	.741	.366	.333	.825	.583	1.62
XDRADWW	.	.	.	2.866	1.866	.833	.566	.316	.600	.88
XDRFEMCON	.	.	.	.	.	.	.	.	.450	.38
XDRFEMEUR	.	.	.	.	.	.	.	.	.650	1.42
XDRFEMOS	.	.	.	.	.	.	.	.	.558	1.51
XDRFEMPAC	.	.	.	.	.	.	.	.	.491	1.66
XDRFEMWW	.	.	.	.	.	.	.	.	.483	.78
XDRMALCON	.	.	.	.	.	.	.	.	.350	.43
XDRMALEUR	.	.	.	.	.	.	.	.	1.266	1.51
XDRMALOS	.	.	.	.	.	.	.	.	1.058	1.52
XDRMALPAC	.	.	.	.	.	.	.	.	.616	1.62
XDRMALWW	.	.	.	.	.	.	.	.	.625	.95
XDSADCON	347.	343.	423.	140.366	168.883	149.883	164.033	141.516	119.850	138.86
XDSADEUR	176.	164.	212.	151.766	104.833	96.908	88.875	84.958	91.425	86.04
XDSADOS	273.	255.	251.	135.216	97.583	93.408	85.791	78.933	80.025	82.27
XDSADPAC	322.	330.	334.	105.116	90.916	86.650	73.016	68.066	70.550	73.13
XDSADWW	311.	302.	354.	138.433	143.591	129.375	136.183	118.833	104.900	117.06
XDSFEMCON	.	.	.	.	.	.	.	.	285.566	332.93
XDSFEMEUR	.	.	.	.	.	.	.	.	258.850	222.95

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XDSFEMOS	.	.	.	.	.	.	.	.	228.350	210.88
XDSFEMPAC	.	.	.	.	.	.	.	.	158.816	167.85
XDSFEMWW	.	.	.	.	.	.	.	.	268.483	289.24
XDSMALCON	.	.	.	.	.	.	.	.	106.416	121.45
XDSMALEUR	.	.	.	.	.	.	.	.	80.216	74.92
XDSMALOS	.	.	.	.	.	.	.	.	70.666	71.90
XDSMALPAC	.	.	.	.	.	.	.	.	66.016	66.11
XDSMALWW	.	.	.	.	.	.	.	.	92.400	102.28
XFRADCON	.	.	.	12.483	12.225	11.258	10.433	9.100	7.666	8.82
XFRADEUR	.	.	.	9.933	8.766	8.150	7.416	7.491	6.991	7.44
XFRADOS	.	.	.	9.033	7.975	7.150	7.466	6.875	6.175	7.08
XFRADPAC	.	.	.	9.316	7.591	6.258	5.716	4.075	5.091	5.14
XFRADWW	.	.	.	11.216	10.725	9.766	9.375	8.283	7.116	8.16
XFRFEMCON	.	.	.	.	.	.	.	.	5.183	6.24
XFRFEMEUR	.	.	.	.	.	.	.	.	3.775	3.68
XFRFEMOS	.	.	.	.	.	.	.	.	3.258	3.70
XFRFEMPAC	.	.	.	.	.	.	.	.	1.400	2.49
XFRFEMWW	.	.	.	.	.	.	.	.	4.608	5.32
XFRMALCON	.	.	.	.	.	.	.	.	7.891	9.02
XFRMALEUR	.	.	.	.	.	.	.	.	7.233	7.79
XFRMALOS	.	.	.	.	.	.	.	.	6.375	7.34
XFRMALPAC	.	.	.	.	.	.	.	.	5.266	5.32
XFRMALWW	.	.	.	.	.	.	.	.	7.308	8.38
XGEFEMCON	.	.	.	54.216	57.058	32.416	36.016	35.358	37.800	44.90
XGEFEMEUR	.	.	.	55.216	51.108	29.533	26.333	24.733	30.366	32.12
XGEFEMOS	.	.	.	88.283	69.783	31.600	28.841	26.891	27.391	30.80
XGEFEMPAC	.	.	.	.	50.260	39.233	32.866	21.283	18.183	27.01
XGEFEMWW	.	.	.	60.350	59.650	33.025	33.791	32.758	34.633	39.83
XGEMALCON	.	.	.	7.183	7.333	6.300	5.233	4.875	4.200	4.70
XGEMALEUR	.	.	.	5.016	5.775	4.475	4.283	5.883	3.933	4.18
XGEMALOS	.	.	.	5.383	5.233	3.866	4.291	3.466	3.375	3.86
XGEMALPAC	.	.	.	7.950	4.658	2.383	3.308	4.558	2.166	2.03
XGEMALWW	.	.	.	6.516	6.575	5.341	4.900	4.358	3.875	4.38
XGIADCON	15.70	17.73	19.47	15.533	15.433	3.225	3.058	2.500	2.291	2.77
XGIADEUR	12.91	11.80	10.72	11.683	13.533	2.350	2.100	2.008	1.766	2.18
XGIADOS	27.62	27.49	15.31	12.400	13.041	2.116	1.866	1.733	1.558	2.12
XGIADPAC	33.87	38.33	22.31	15.183	13.225	2.375	1.625	1.125	1.766	2.62
XGIADWW	21.55	22.24	17.80	14.350	14.583	2.841	2.633	2.275	2.016	2.52
XGIFEMCON	.	.	.	.	.	.	.	.	7.375	8.50
XGIFEMEUR	.	.	.	.	.	.	.	.	4.608	6.12
XGIFEMOS	.	.	.	.	.	.	.	.	4.108	5.72
XGIFEMPAC	.	.	.	.	.	.	.	.	2.958	6.98
XGIFEMWW	.	.	.	.	.	.	.	.	6.350	7.50
XGIMALCON	.	.	.	.	.	.	.	.	1.850	2.22
XGIMALEUR	.	.	.	.	.	.	.	.	1.566	1.84
XGIMALOS	.	.	.	.	.	.	.	.	1.416	1.83
XGIMALPAC	.	.	.	.	.	.	.	.	1.725	2.30

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XGIMALWW	.	.	.	.	.	.	.	.	1.691	2.14
XHEADCON	3.33	4.21	5.24	4.066	3.200	2.675	2.275	1.608	1.066	1.13
XHEADEUR	.38	1.00	1.45	20.616	12.625	10.875	7.075	4.891	6.891	5.37
XHEADOS	4.88	5.35	4.96	15.550	9.650	8.466	5.725	4.200	5.558	4.45
XHEADPAC	7.42	9.24	8.16	6.150	4.375	4.158	3.583	3.575	3.591	2.96
XHEADWW	4.09	5.03	5.13	8.283	5.650	4.783	3.500	2.541	2.750	2.41
XHEFEMCON	.	.	.	.	.	.	.	.	1.141	1.26
XHEFEMEUR	.	.	.	.	.	.	.	.	5.250	4.52
XHEFEMOS	.	.	.	.	.	.	.	.	4.158	3.62
XHEFEMPAC	.	.	.	.	.	.	.	.	.958	1.23
XHEFEMWW	.	.	.	.	.	.	.	.	2.116	2.12
XHEMALCON	.	.	.	.	.	.	.	.	1.066	1.13
XHEMALEUR	.	.	.	.	.	.	.	.	7.033	5.43
XHEMALOS	.	.	.	.	.	.	.	.	5.650	4.51
XHEMALPAC	.	.	.	.	.	.	.	.	3.725	3.09
XHEMALWW	.	.	.	.	.	.	.	.	2.825	2.43
XHRADCON	.90	.80	.81	.600	.566	.475	.441	.375	.316	.400
XHRADEUR	.	.	.	.300	.291	.275	.200	.208	.241	.242
XHRADOS	1.19	1.06	.79	.300	.266	.241	.200	.200	.200	.208
XHRADPAC	.	.	.	.283	.200	.200	.175	.108	.166	.192
XHRADWW	1.04	.92	.80	.500	.466	.383	.350	.291	.291	.358
XHRFEMCON	.	.	.	.	.	.	.	.	.500	.633
XHRFEMEUR	.	.	.	.	.	.	.	.	.383	.400
XHRFEMOS	.	.	.	.	.	.	.	.	.333	.375
XHRFEMPAC	.	.	.	.	.	.	.	.	.208	.233
XHRFEMWW	.	.	.	.	.	.	.	.	.441	.550
XHRMALCON	.	.	.	.	.	.	.	.	.308	.367
XHRMALEUR	.	.	.	.	.	.	.	.	.225	.208
XHRMALOS	.	.	.	.	.	.	.	.	.200	.200
XHRMALPAC	.	.	.	.	.	.	.	.	.166	.192
XHRMALWW	.	.	.	.	.	.	.	.	.266	.325
XIAADCON	.	.	.	.316	.308	.300	.316	.458	.525	.58
XIAADEUR	.	.	.	1.683	2.108	1.033	.708	.725	1.716	2.12
XIAADOS	.	.	.	1.233	1.591	.766	.600	.858	1.275	1.66
XIAADPAC	.	.	.	.450	.450	.066	.216	.025	.075	.11
XIAADWW	.	.	.	.650	.766	.458	.433	.625	.808	.99
XIAFEMCON	.	.	.	.	.	.	.	.	.758	.73
XIAFEMEUR	.	.	.	.	.	.	.	.	1.283	2.25
XIAFEMOS	.	.	.	.	.	.	.	.	.983	1.80
XIAFEMPAC	.	.	.	.	.	.	.	.	.000	.39
XIAFEMWW	.	.	.	.	.	.	.	.	.850	1.12
XIAMALCON	.	.	.	.	.	.	.	.	.500	.58
XIAMALEUR	.	.	.	.	.	.	.	.	1.725	2.12
XIAMALOS	.	.	.	.	.	.	.	.	1.300	1.62
XIAMALPAC	.	.	.	.	.	.	.	.	.075	.09
XIAMALWW	.	.	.	.	.	.	.	.	.800	.98
XIDADCON	.	.	.	8.766	5.975	1.866	.908	.641	.425	.62

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XIDADEUR	.	.	.	40.483	23.250	17.975	9.041	5.458	6.958	5.29
XIDADOS	.	.	.	31.466	16.866	14.741	7.200	4.508	5.366	4.25
XIDADPAC	.	.	.	18.366	6.708	3.516	.800	.608	1.275	.79
XIDADWW	.	.	.	17.116	9.841	6.558	3.266	2.033	2.300	2.02
XIDFEMCON	.	.	.	.	.	.	.	.	.591	.67
XIDFEMEUR	.	.	.	.	.	.	.	.	4.258	5.12
XIDFEMOS	.	.	.	.	.	.	.	.	3.675	4.16
XIDFEMPAC	.	.	.	.	.	.	.	.	2.233	.84
XIDFEMWW	.	.	.	.	.	.	.	.	1.558	1.93
XIDMALCON	.	.	.	.	.	.	.	.	.416	.61
XIDMALEUR	.	.	.	.	.	.	.	.	8.033	5.72
XIDMALOS	.	.	.	.	.	.	.	.	6.108	4.53
XIDMALPAC	.	.	.	.	.	.	.	.	1.225	.79
XIDMALWW	.	.	.	.	.	.	.	.	2.600	2.12
XIJADCON	36.	40.	39.	25.733	24.841	25.300	24.758	22.783	21.233	26.18
XIJADEUR	30.	31.	31.	32.083	19.491	19.158	18.883	19.250	21.308	22.08
XIJADOS	76.	50.	35.	27.866	18.200	18.033	18.433	17.516	18.350	20.68
XIJADPAC	102.	66.	43.	18.950	14.466	13.708	13.591	11.850	12.800	16.32
XIJADWW	56.	45.	37.	26.516	22.483	22.658	22.516	20.875	20.141	24.06
XIJFEMCON	.	.	.	.	.	.	.	.	23.658	30.28
XIJFEMEUR	.	.	.	.	.	.	.	.	18.283	19.37
XIJFEMOS	.	.	.	.	.	.	.	.	15.575	17.98
XIJFEMPAC	.	.	.	.	.	.	.	.	9.916	10.25
XIJFEMWW	.	.	.	.	.	.	.	.	21.166	25.85
XIJMALCON	.	.	.	.	.	.	.	.	21.033	25.82
XIJMALEUR	.	.	.	.	.	.	.	.	21.500	22.35
XIJMALOS	.	.	.	.	.	.	.	.	18.541	20.87
XIJMALPAC	.	.	.	.	.	.	.	.	12.941	16.78
XIJMALWW	.	.	.	.	.	.	.	.	20.058	23.90
XMDADCON	13.56	16.56	19.51	19.79	17.36	14.56	13.23	11.65	11.04	13.79
XMDADEUR	.	.	.	20.66	19.50	15.80	13.10	13.91	17.15	17.87
XMDADOS	19.94	18.96	15.19	19.50	17.99	14.04	12.64	13.63	15.75	17.69
XMDADPAC	.	.	.	21.03	17.22	11.22	8.79	10.57	15.19	17.97
XMDADWW	15.64	17.01	17.91	19.68	17.58	14.39	13.12	12.33	12.77	15.25
XMDFEMCON	.	.	.	.	.	.	.	.	19.75	26.62
XMDFEMEUR	.	.	.	.	.	.	.	.	28.18	26.44
XMDFEMOS	.	.	.	.	.	.	.	.	24.53	24.90
XMDFEMPAC	.	.	.	.	.	.	.	.	15.99	24.70
XMDFEMWW	.	.	.	.	.	.	.	.	21.25	26.04
XMDMALCON	.	.	.	.	.	.	.	.	10.28	12.55
XMDMALEUR	.	.	.	.	.	.	.	.	16.41	17.19
XMDMALOS	.	.	.	.	.	.	.	.	15.14	16.94
XMDMALPAC	.	.	.	.	.	.	.	.	15.51	17.31
XMDMALWW	.	.	.	.	.	.	.	.	12.26	14.41
XNEADCON	2.02	2.3	2.2	2.700	2.775	2.333	2.150	1.633	1.700	1.92
XNEADEUR	1.61	1.3	2.6	2.566	2.541	2.216	1.683	1.291	1.708	1.68
XNEADOS	2.86	1.8	2.5	2.400	2.383	1.975	1.666	1.333	1.583	1.55

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XNEADPAC	3.45	.	.	2.200	2.016	1.041	.816	.875	1.708	.75
XNEADWW	2.43	2.10	2.30	2.583	2.625	2.200	1.983	1.525	1.666	1.77
XNEFEMCON	.	.	.	.	.	.	.	.	4.266	5.40
XNEFEMEUR	.	.	.	.	.	.	.	.	6.491	4.62
XNEFEMOS	.	.	.	.	.	.	.	.	5.383	4.11
XNEFEMPAC	.	.	.	.	.	.	.	.	2.041	3.33
XNEFEMWW	.	.	.	.	.	.	.	.	4.475	4.98
XNEMALCON	.	.	.	.	.	.	.	.	1.483	1.62
XNEMALEUR	.	.	.	.	.	.	.	.	1.350	1.43
XNEMALOS	.	.	.	.	.	.	.	.	1.366	1.33
XNEMALPAC	.	.	.	.	.	.	.	.	1.533	.58
XNEMALWW	.	.	.	.	.	.	.	.	1.508	1.52
XNRADCON	.	.	.	10.083	9.525	8.391	7.783	6.900	5.875	7.200
XNRADEUR	.	.	.	4.133	3.766	3.708	3.325	3.291	3.391	3.408
XNRADOS	.	.	.	4.150	3.758	3.558	3.308	3.183	3.041	3.375
XNRADPAC	.	.	.	3.900	3.241	2.600	2.233	1.950	1.983	2.342
XNRADWW	.	.	.	7.900	7.433	6.641	6.166	5.400	4.816	5.733
XNRFEMCON	.	.	.	.	.	.	.	.	10.325	12.158
XNRFEMEUR	.	.	.	.	.	.	.	.	9.591	8.233
XNRFEMOS	.	.	.	.	.	.	.	.	8.733	8.292
XNRFEMPAC	.	.	.	.	.	.	.	.	4.483	4.675
XNRFEMWW	.	.	.	.	.	.	.	.	9.816	10.792
XNRMALCON	.	.	.	.	.	.	.	.	5.516	6.742
XNRMALEUR	.	.	.	.	.	.	.	.	2.983	
XNRMALOS	.	.	.	.	.	.	.	.	2.675	3.033
XNRMALPAC	.	.	.	.	.	.	.	.	1.858	2.175
XNRMALWW	.	.	.	.	.	.	.	.	4.458	5.300
XPDADCON	1.99	5.6	9.3	4.700	3.283	2.716	2.508	2.200	1.691	2.35
XPDADEUR	1.71	1.8	4.3	1.950	2.125	1.758	1.533	1.958	2.383	2.48
XPDADOS	6.22	9.9	5.7	2.050	2.091	1.708	1.591	2.091	2.383	2.62
XPDADPAC	8.64	.	.	2.333	2.341	1.675	1.150	1.675	2.283	2.64
XPDADWW	4.07	7.6	7.8	3.716	2.858	2.350	2.183	2.125	1.916	2.46
XPDFEMCON	.	.	.	.	.	.	.	.	3.808	5.82
XPDFEMEUR	.	.	.	.	.	.	.	.	5.233	5.74
XPDFEMOS	.	.	.	.	.	.	.	.	4.650	5.42
XPDFEMPAC	.	.	.	.	.	.	.	.	2.875	3.72
XPDFEMWW	.	.	.	.	.	.	.	.	4.150	5.66
XPDMALCON	.	.	.	.	.	.	.	.	1.516	2.06
XPDMALEUR	.	.	.	.	.	.	.	.	2.175	2.22
XPDMALOS	.	.	.	.	.	.	.	.	2.133	2.37
XPDMALPAC	.	.	.	.	.	.	.	.	2.408	2.58
XPDMALWW	.	.	.	.	.	.	.	.	1.775	2.17
XPOADCON	.	.	.	13.450	12.475	10.800	10.458	9.525	8.808	10.88
XPOADEUR	.	.	.	10.983	10.900	9.466	7.866	7.666	8.983	8.38
XPOADOS	.	.	.	10.250	10.625	8.741	7.941	7.983	8.758	8.72
XPOADPAC	.	.	.	9.100	11.008	7.450	6.033	6.308	9.625	10.15
XPOADWW	.	.	.	12.250	11.783	10.058	9.550	8.933	8.766	9.99

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
XRPFEMOS	.	.	.	.	.	.	.	.	7.150	3.46
XRPFEMPAC	.	.	.	.	.	.	.	.	1.516	1.60
XRPFEMWW	.	.	.	.	.	.	.	.	31.491	44.40
XRPMALCON	.	.	.	.	.	.	.	.	29.366	30.64
XRPMALEUR	.	.	.	.	.	.	.	.	3.733	1.56
XRPMALOS	.	.	.	.	.	.	.	.	2.958	1.46
XRPMALPAC	.	.	.	.	.	.	.	.	1.533	1.46
XRPMALWW	.	.	.	.	.	.	.	.	19.333	19.35
XSTADWW	1322548.	1123810.	810960.	800973.	783330.	784333.	779417.	782246.	771624.	758852.
XSTFEMWW	16724.	16865.	16771.	20736.	30715.	42295.	48650.	51790.	56841.	62017.
XSTMALWW	1305824.	1106945.	794189.	780237.	752615.	742038.	730767.	730456.	714783.	696835.
XTRADCON	.	.	.	2.350	2.600	2.550	2.775	3.058	2.791	3.72
XTRADEUR	.	.	.	3.133	3.400	3.116	2.700	2.683	3.191	2.60
XTRADOS	.	.	.	2.766	3.141	2.775	2.733	2.833	3.150	2.96
XTRADPAC	.	.	.	1.950	2.516	2.416	2.500	2.541	4.266	5.36
XTRADWW	.	.	.	2.516	2.783	2.641	2.775	2.966	2.925	3.38
XTRFEMCON	.	.	.	.	.	.	.	.	6.250	8.41
XTRFEMEUR	.	.	.	.	.	.	.	.	9.983	7.73
XTRFEMOS	.	.	.	.	.	.	.	.	9.000	7.66
XTRFEMPAC	.	.	.	.	.	.	.	.	7.941	11.38
XTRFEMWW	.	.	.	.	.	.	.	.	7.150	8.12
XTRMALCON	.	.	.	.	.	.	.	.	2.500	3.20
XTRMALEUR	.	.	.	.	.	.	.	.	2.825	2.18
XTRMALOS	.	.	.	.	.	.	.	.	2.808	2.57
XTRMALPAC	.	.	.	.	.	.	.	.	4.225	4.68
XTRMALWW	.	.	.	.	.	.	.	.	2.616	2.97
YALADWW	2.04	2.45	3.01	3.58	3.32	3.72	3.61	3.40	3.57	.
YALFEMWW	1.02	2.21	1.63	1.16	1.42	1.89	1.42	1.72	2.51	.
YALMALWW	2.06	2.45	3.04	3.64	3.40	3.82	3.75	3.52	3.67	.
YBOADWW	3150.	2925.	2558.	2250.	2034.	1768.	1593.	1550.	1545.	.
YCHADWW	1.31	3.12	1.75	1.67	1.90	1.97	1.85	1.83	1.84	.
YCHFEMWW	8.89	13.82	7.36	7.67	9.02	8.23	6.42	7.77	5.99	.
YCHMALWW	1.17	2.90	1.62	1.50	1.61	1.65	1.57	1.41	1.48	.
YCVADWW	499230.	473280.	462030.	452040.	451920.	400140.	384690.	380400.	393960.	.
YDAADWW	2.18	4.44	4.47	5.23	3.67	4.20	3.84	3.62	3.72	.
YDAFEMWW	1.17	2.35	1.75	1.49	1.63	2.09	1.47	1.98	2.62	.
YDAMALWW	2.20	4.48	4.53	5.33	3.75	4.31	3.98	3.74	3.81	.
YDIADWW	188.42	203.70	208.36	201.13	194.00	200.09	209.98	206.86	219.31	.
YDIFEMWW	415.78	476.58	505.97	583.71	571.39	576.89	585.49	621.87	624.64	.
YDIMALWW	184.39	198.18	201.39	190.75	179.00	180.44	186.37	177.48	184.07	.
YDRADWW	.14	1.99	1.46	1.65	.34	.48	.23	.22	.14	.
YDRFEMWW	.15	.13	.12	.33	.20	.20	.06	.26	.11	.
YDRMALWW	.14	2.03	1.49	1.69	.35	.49	.24	.21	.15	.
YDSADWW	160.46	173.50	178.92	172.41	166.69	171.55	181.09	178.79	190.02	.
YDSFEMWW	371.99	430.61	465.98	539.64	532.67	536.96	547.18	578.39	581.20	.
YDSMALWW	156.71	168.30	172.20	162.44	152.15	152.50	158.08	150.50	156.02	.
YFRADWW	7.13	7.28	7.48	7.46	6.84	6.83	6.74	6.26	6.51	.

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
YFRFEMWW	8.01	6.98	6.51	7.12	6.05	5.51	4.91	5.39	5.44	.
YFRMALWW	7.12	7.28	7.50	7.47	6.87	6.90	6.85	6.32	6.60	.
YGEFEMWW	31.76	31.81	36.07	40.77	41.65	43.25	42.02	41.42	41.85	.
YGEMALWW	6.42	6.64	7.09	6.79	6.62	6.19	5.60	5.10	4.62	.
YGIADWW	5.87	5.26	5.39	5.29	5.35	5.24	6.20	6.71	8.48	.
YGIFEMWW	14.21	15.37	17.91	17.49	17.23	15.73	19.30	19.78	23.57	.
YGIMALWW	5.72	5.05	5.10	4.96	4.88	4.69	5.37	5.79	7.16	.
YHEADWW	1.59	1.82	1.94	2.08	1.53	1.24	1.06	.92	.84	.
YHEFEMWW	1.60	2.15	2.23	2.43	2.03	1.79	1.56	1.16	.97	.
YHEMALWW	1.59	1.81	1.94	2.07	1.51	1.21	1.03	.90	.83	.
YHRADWW	.400	.389	.353	.328	.316	.291	.272	.271	.272	.
YIJADWW	27.96	30.20	29.44	28.72	27.31	28.53	28.89	28.07	29.29	.
YIJFEMWW	43.79	45.97	39.99	44.08	38.72	39.93	38.32	43.48	43.44	.
YIJMALWW	27.68	29.88	29.19	28.31	26.86	27.94	28.30	26.98	28.06	.
YMDADWW	14.08	18.84	18.66	18.64	15.16	15.58	14.77	13.95	13.96	.
YMDFEMWW	42.98	49.05	44.63	47.55	41.73	37.31	34.97	33.15	30.66	.
YMDMALWW	13.56	18.23	18.05	17.86	14.10	14.45	13.50	12.59	12.50	.
YNEADWW	3.68	4.26	3.76	3.39	3.19	2.80	2.41	2.40	2.12	.
YNEFEMWW	13.33	15.77	16.10	16.83	14.95	10.92	8.81	8.43	6.78	.
YNEMALWW	3.51	4.02	3.47	3.03	2.73	2.38	2.01	1.97	1.72	.
YNRADWW	6.68	6.60	6.45	6.62	6.21	5.49	5.85	5.21	5.60	.
YNRFEMWW	.	.	.	13.63	12.48	11.85	13.04	12.83	12.53	.
YPDADWW	3.16	4.42	4.19	3.77	2.60	2.87	2.91	2.81	2.90	.
YPDFEMWW	13.33	13.09	11.46	11.03	8.04	8.50	8.50	7.92	7.42	.
YPDMALWW	2.98	4.25	4.02	3.57	2.39	2.58	2.56	2.45	2.51	.
YPOADWW	10.64	13.04	13.02	12.46	10.52	10.41	9.92	9.42	9.36	.
YPOFEMWW	38.39	42.81	40.23	42.04	36.04	31.86	30.75	27.87	24.82	.
YPOMALWW	10.15	12.44	12.38	11.65	9.50	9.29	8.61	8.11	8.01	.
YPSADWW	1.76	1.98	2.12	2.06	2.00	1.74	1.56	1.28	1.40	.
YPSFEMWW	2.77	4.36	4.64	3.31	2.64	2.36	2.08	2.03	1.78	.
YPSMALWW	1.74	1.93	2.06	2.03	1.97	1.70	1.52	1.22	1.36	.
YPWADWW	12.83	17.48	17.48	17.68	14.19	14.61	13.75	13.04	13.07	.
YPWFEMWW	39.56	45.16	41.98	43.53	37.66	33.95	32.22	29.85	27.45	.
YPWMALWW	12.35	16.92	16.91	16.98	13.25	13.60	12.59	11.85	11.82	.
YRPADWW	7.61	9.83	9.86	8.39	7.27	9.43	14.74	14.40	19.38	.
YRPFEMWW	22.44	34.42	41.86	49.26	36.89	29.24	34.13	36.48	51.26	.
YRPMALWW	7.35	9.33	9.11	7.28	6.09	8.39	13.53	12.83	16.61	.
YSTADWW	788232.	751281.	725348.	686037.	644006.	608024.	585227.	572453.	567602.	.
YSTFEMWW	13726.	14902.	16580.	18127.	24612.	30129.	34605.	37857.	45399.	.
YSTMALWW	774506.	736379.	708768.	667910.	619394.	577895.	550622.	534596.	522203.	.
YTRADWW	2.04	2.38	2.94	3.23	2.72	3.00	3.04	2.93	2.94	.
YTRFEMWW	8.96	9.60	8.02	10.87	10.40	10.09	11.36	9.48	8.83	.
YTRMALWW	1.92	2.24	2.83	3.03	2.42	2.63	2.52	2.47	2.42	.
ZALADWW	1.57	2.04	2.47	3.82	4.20	5.19	5.75	6.15	6.98	.
ZBOADWW	7636.	5752.	4652.	4705.	4304.	3297.	2136.	1707.	1428.	.
ZCHADWW	1.82	1.91	1.50	1.83	2.06	2.81	1.94	1.91	2.04	.
ZCVADWW	645706.	571796.	536068.	529219.	542456.	553628.	550409.	551803.	538702.	.

YEAR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
ZDAADWW	2.39	4.34	5.62	5.84	6.21	7.33	7.55	7.37	8.16	.
ZDIADWW	194.4	190.2	173.4	160.9	162.1	159.2	160.8	160.8	147.2	.
ZDIFEMWW	386.4	384.8	347.9	350.6	365.5	345.2	369.8	367.5	350.3	.
ZDIMALWW	192.2	187.6	170.8	157.1	156.5	152.8	152.9	152.9	138.3	.
ZDRADWW	.36	.93	.92	.71	.88	1.18	.96	.65	.71	.
ZDSADWW	149.9	151.3	140.4	126.9	129.0	126.7	128.1	126.6	113.8	.
ZDSFEMWW	336.7	342.9	314.1	312.7	333.0	312.0	335.8	337.2	317.8	.
ZDSMALWW	147.7	148.7	138.0	123.2	123.3	120.3	120.3	118.5	105.0	.
ZFRADWW	12.40	11.48	9.86	10.11	9.56	9.73	9.32	9.60	9.68	.
ZGEFEMWW	25.372	24.568	25.088	26.208	27.175	27.318	30.135	37.176	35.456	.
ZGEMALWW	5.289	5.991	5.765	5.441	5.331	5.104	4.698	4.517	3.951	.
ZGIADWW	3.31	2.59	2.18	1.81	2.06	2.07	2.07	2.51	1.98	.
ZHEADWW	1.37	1.66	1.64	1.59	1.86	1.48	1.22	1.20	.93	.
ZHRADWW	.799	.684	.589	.618	.583	.450	.297	.238	.199	.
ZIAADWW	.	.	.	.	.	.	.	.	.	.
ZIDADWW	.46	1.37	2.23	1.31	1.13	.96	.84	.57	.47	.
ZIJADWW	44.5	38.9	33.0	34.0	33.1	32.5	32.7	34.2	33.4	.
ZIJFEMWW	49.7	41.9	33.8	37.9	32.5	33.2	34.0	30.3	32.5	.
ZIJMALWW	44.5	38.9	32.8	33.9	33.2	32.5	32.6	34.4	33.3	.
ZMDADWW	15.7	15.6	15.5	16.3	17.0	18.3	18.9	18.6	19.2	.
ZMDFEMWW	44.9	43.5	34.8	33.4	36.9	35.4	35.4	28.8	30.8	.
ZMDMALWW	15.4	15.2	15.2	16.0	16.5	17.7	18.3	18.1	18.6	.
ZNEADWW	2.64	2.77	2.85	2.61	2.44	2.17	2.27	1.85	1.67	.
ZNRADWW	9.34	8.68	7.72	7.81	7.47	6.07	4.42	3.45	2.66	.
ZPDADWW	6.46	5.70	4.89	4.76	4.60	4.53	4.72	4.38	4.12	.
ZPOADWW	12.37	11.40	11.18	10.98	11.05	11.12	11.37	11.00	10.87	.
ZPSADWW	1.88	1.47	1.44	1.56	1.64	1.78	1.96	2.45	2.45	.
ZPWADWW	14.76	15.74	16.80	16.82	17.27	18.45	18.92	18.37	19.03	.
ZRPADWW	9.46	8.83	12.07	5.27	5.43	4.41	4.43	4.16	2.22	.
ZSTADWW	956063.	840582.	789690.	761003.	738169.	732175.	719242.	717286.	716767.	.
ZSTFEMWW	11036.	10990.	11878.	14881.	19945.	24160.	26215.	26845.	29417.	.
ZSTMALWW	945027.	829592.	777812.	746122.	718224.	708015.	693027.	690441.	687350.	.
ZTRADWW	1.39	1.46	2.00	2.05	2.38	2.64	2.42	2.32	2.63	.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